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MIND STUDIES

FOR

YOUNG TEACHERS.

By JEROME ALLEN, Ph.D.,

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H

PREFACE.

THERE are many teachers who know little about psychology, and who have a desire to be better informed concerning its principles, especially its relation to the work of teaching. For the aid of such, this book has been prepared. But it is not a psychology,—only an introduction to it, aiming to give some fundamental principles, together with something concerning the philosophy of education. Its method is subjective rather than objective, leading the student to watch mental processes, and draw his own conclusions. Little of mind-science, that is of use to the teacher, can be learned by reading books. No subject is more dependent upon observation and experiment than this. When mind-growth and mental activities are understood by teachers, instruction will become scientific, and not, as is now too frequently the case, empirical. If this little volume shall serve to hasten the time when teaching shall be more a profession and less a vocation, the author will have accomplished all he designed.

HOW TO USE THIS BOOK.

Edward Everett Hale, in his book, "How to Do It," discusses the matter of reading. The substance of what he says may be given in the form of the following ten rules:

1. Don't try to read everything. 2. Read two books on the same subject, one solid, one for pleasure. 3. Don't read a book for the sake of saying "I have read it."

4. Review what you read. 5. Read with a pencil in hand. 6. Use a blank book. 7. Condense whatever you copy. 8. Read less and remember it. 9. One hour for light reading should have one hour for solid reading. 10. Whatever reading you do, do it regularly. These rules, with little modification, will apply to the way this volume should be used. On another page will be found a list of books which the author has made free use of in preparing it, and it would be well for all those who study these pages to buy one of the volumes mentioned, and read it at the same time this one is read. Discussions of the topics presented with others who are intelligently interested in the subject under consideration will very much assist progress, interest, and comprehension. If any topic is not fully understood, it should not be left until some light is thrown upon it. At all events, *interest* will come from an *understanding* of the subject discussed.

JEROME ALLEN.

NEW YORK, May, 1887.

PUBLISHERS' NOTE.

THE volumes already published by us* have had an unprecedented sale, when it is remembered that ten years ago it was hardly possible to sell an educational work. They have roused a spirit of inquiry; better methods are being adopted the whole country over; in fact, a New Education, better fitted to express the advancement of the nineteenth century, is coming in. Clear and practical exposition of the great fundamental truths of education in books of a moderate cost and of good workmanship is a need of the times, and this volume is put forth to meet it. Other volumes will follow and discuss the subjects of Psychology; Principles, Practice, and History of Education; Methods; the Primary School; the Kindergarten; Manual Training, etc. We believe that teachers who seek to teach in the highest style the art of teaching has attained will want this series.

E. L. KELLOGG & Co.

* Parker's Talks on Teaching; Patridge's "Quincy Methods," illustrated; Tate's Philosophy of Education; Payne's Lectures on the Science and Art of Education; Fitch's Lectures on Teaching; Shaw and Donnell's School Devices; Shaw's National Question-Book; Kellogg's School Management; Johnson's Education by Doing, etc., etc.

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BOOKS FOR REFERENCE AND STUDY.

Philosophy of Education . . . . . Tate.
Theory and Practice of Teaching. . . . . David P. Page.
Lectures on the Science of Education . . . Joseph Payne.
Talks on Teaching . . . . . Francis W. Parker.
Self-culture . . . . . James Freeman Clarke.
History of Pedagogy . . . . . Gabriel Compayré.
Philosophy of Education . . . Johann Karl Rosenkranz.
Mental Philosophy . . . . . Joseph Haven.
Teachers' Hand-book of Psychology. . . . . James Sully.
Psychology. The Cognitive Powers . . . James McCosh.
Mental Science and Culture . . . . . Edward Brooks.

MIND-STUDIES FOR YOUNG TEACHERS.

Chapter X.

HOW TO STUDY MIND.

At first we must learn to watch our own mental operations. For example, we can ascertain why we retain one class of facts better than others, how the mind is affected by circumstances without us, and how by the condition of the body. We can also study mind by noticing mental phenomena in others. How do our pupils arrive at their knowledge? What distracts them? When do they succeed? What interests them? There are two methods: introspective—that which is from within; the objective—that which is from without. These constitute the two ways by which we can come to an accurate knowledge of mental operations.

At the beginning it will not be easy to notice accurately the workings of mind. How can it be promoted? Write down from day to day what you observe in yourself and others. You will probably say something like the following:

"This morning a circumstance came to my mind which I had not thought of for years; nothing seemed

to suggest it: it flashed upon me in an instant without apparent cause. I will watch my mind for other suggestions." "I notice that it is easier for me to remember some things than others; for example, a tune has been running in my head for hours; I cannot banish it; it is an annoyance: while other things I want to remember are totally forgotten at the very time it would be of great value for me to remember them." "I notice that when I use a striking illustration in a recitation, or tell an interesting story, my pupils are all attention, and remember without an effort. Why is this?"

These suppositional notes will show what our readers who desire to study their own minds must do. Commence at once, if possible, in connection with others who are similarly situated. Compare notes frequently, and in some quiet hour discuss what you have written, not for disputation, but to ascertain how the mind takes knowledge, how it thinks, what hinders its growth and what accelerates and stimulates it. Classify the notes as far as possible, and arrange them under the heads: 1. OBSERVATION; 2. INFERENCE. You will *infer* many things, although at first you will *conclude* but few; but you will ascertain that

Mental activity is promoted by interest; that

Association is necessary to easy memorizing; that

The power of correct reasoning is reached only by slow and careful steps; and that

It is not easy at first to keep the mind thinking on one subject for any great length of time.

One mind is a type of other minds. The way one thinks, others think. Our difficulties are others' diffi-

culties. On this account it is necessary for teachers to understand themselves.

A Few Questions.—Is mind immaterial? Why do we so conclude? What arguments are there in favor of its materiality? What is sleep? What are dreams? What is forgetfulness? What is the cause of the "decay" of our mental powers? What are the first indications of mind? How is it known that a young child has mind? What does growth prove concerning the nature of mind at first? What are the steps in the "growth" of mind? What are the senses? Is the mind dependent upon them? What is meant by having "no sense"? What is consciousness?

A Few Facts.—1. That the mind is immaterial is assumed from the fact that it seems to act independently of the body.

2. From the fact that the mind has no power of conveying knowledge and growing, except through the medium of the senses, it has been assumed that the mind is material.

3. Sleep is a bodily action.

4. Dreams indicate that the mind is active during the sleep of the body, because what is thought is partly remembered during waking hours.

5. Forgetfulness is the inability of the mind to recall impressions.

6. The first indication of mind is shown in expressing a sense of pain. This shows that there is at the commencement of our being some mental activity.

7. The mind at first is in a very undeveloped condition.

8. The senses are the avenues by which the mind receives and gives impressions. Without them it would have no opportunity of receiving or giving.

9. By consciousness is meant that power which we have of knowing and studying our mental processes.

10. The mind grows by means of the *senses.*

11. It has different faculties.

12. These parts or faculties do not all grow with equal rapidity.

13. Its principal means of growth are through its effort to impart knowledge.

14. A young mind has certain instincts in common with the lower animals.

15. Mind wherever found is the same. Instinct cannot be studied by the same laws as mind.

AN OUTLINE.

The Mind.

I. *Its Sensibility.* (Power of Feeling.)
II. *Its Thinking.* (Power of Knowing.)
III. *Its Willing.* (Power of Determining.)

The Sensibilities.

1. Of the Body:—Sensations, Appetites, Instincts.
2. Of the Mind:—Emotions, Affections, Desires.

Thinking—The Intellect.

1. PRESENTATIVE, ... *Perception.*
2. REPRESENTATIVE, { 1. Of the Actual, *Memory.* / 2. Of the Ideal, *Imagination.*
3. REFLECTIVE, { 1. Synthetic, *Generalization.* / 2. Analytic, . . *Reasoning.*
4. INTUITIVE, ... *Original Conception.*

Chapter XX.

SOME FACTS IN MIND-GROWTH.

If it is important for the farmer to understand the nature of soils and vegetable growth, it is much more necessary for the teacher to know how the mind grows, for a school is only a child-garden. In the soil of infantile nature some seeds can early be planted, and at each successive step in development a certain method of training and stimulating must be used. There are right and wrong ways; it is the duty of the teacher to know the right. There is now so much of science in education that some correct principles are fixed as fundamental and universally accepted. A few of these we will point out.

1. *Healthy growth depends upon* PROPER *exercise, on* APPROPRIATE *subjects, at* RIGHT *times.*

If these three elements should be observed there would be an ideally perfect education.

2. *Only the* VOLUNTARY FACULTIES *are influenced by motives.* Attention, for example, is a voluntary faculty; motives alone can influence it.

3. *All natural growth comes from healthful exercise and is attended with* PLEASURE.

The gratification of curiosity, the desire of knowledge,

the love of the beautiful and wonderful, are *always* productive of pleasurable emotions. Pain is always an indication of disorder and wrong somewhere. Dislike and aversion to certain actions show a want of harmony. When the gardener is compelled to prune and transplant, it is the result of a want of fitness of the young tree to itself or its surroundings. It is the same with the child.

4. *Habits are formed by the repetition of the same acts.* By and by it becomes easy to do what at first was extremely difficult. When habits are formed and fixed they cannot be changed except by the most long-continued and persistent exercise—the crook in the body of the old tree is almost as difficult to straighten. This shows us the great importance of right exercise at first, for the mental and moral constitution of the growing nature becomes permanently fixed at an early day.

5. *The whole mind exists, although in a rudimentary state, in the young child;* therefore every part of the mind must be touched from the very first. No faculty can be left untrained to some future time. This does not mean that all the faculties can be fully developed from the first, but that the means of their training must be used from the commencement of mind-activity.

6. *Perception is the first stage of intelligence.* This depends upon outward objects; without them there could be no growth.

INTUITIONS.—But there are intuitions not dependent upon perception. We know that the *me* is different from the *not-me.* When the child sees a beautiful object, it is pleased because *it has an intuitive faculty* of being pleased by it. There is an answer within to that with-

out. It is the native, inborn faculty of the beautiful which may be compared to a string of a harp tuned to a certain tone; when a corresponding tone is sounded, the answering vibration is immediately perceived; but harmony must exist or there could be no sympathy in the string tuned. This harp-string illustrates the intuitive sense of the beautiful; the outward tone is the beauty taken in by the senses.

These intuitions are universal, for they are found in the savage as well as the civilized. They are the recognition of the sense of the beautiful or the perception of harmony. Many of our judgments are the elements of what we call *common-sense*. They belong to the nature of things like the axioms of mathematics, as, "Things equal to the same thing are equal to each other."

Some philosophers, like Herbert Spencer, are disposed to deny their existence, but the universal verdict of mankind attest their *presence*, and the almost unanimous testimony of writers on mental science provides them a place in educational science.

THE STAGES OF GROWTH.

Tate, in his "Philosophy of Education," gives four distinct stages of mental activity:

1. I *perceive* a thing.
2. I *have a conception* of a thing.
3. I *understand* a thing.
4. I can *prove* a thing.

The *first* cultivates the *perceptive* faculties; the *second*, the *representative* faculties; the *third*, the *knowing* faculties; the *fourth*, the *reasoning* faculties.

Along with these intellectual stages there are four steps in the development of the emotions and the will.

In the *First*—the maximum of sensibility and the minimum of the will.

In the *Second*—a diminution of sensibility with an increase of the will.

In the *Third*—a further diminution of the sensibilities and an increase of the force of the will.

In the *Fourth*—a minimum of sensibility and a maximum of the will. See *Tate's Philosophy of Education.*

"THERE is a well-marked order in the growth of the intellect. (1) The process of attaining knowledge sets out with sensation, or the reception of external impressions by the mind. Sense supplies the materials which the intellect assimilates and elaborates according to its own laws. Before we can know anything about material objects which surround us they must impress our mind through the senses (sight, touch, hearing, etc.). (2) Sensation is followed by perception, in which a number of impressions are grouped together under the form of a precept. (3) After perception comes representative imagination. It may represent this either in the original form (reproductive imagination), as when we recall the face of a friend; or in a new form (constructive imagination), as when we imagine some historical personage. (4) Finally we have general or abstract knowing, otherwise marked off as *thinking*. This includes conception, or the formation of concepts; *judgment*, or the combination of concepts; and *reasoning*, or the combination of judgments, as when we conclude that a journalist is not omniscient, because no men are so."—SULLY'S HAND-BOOK OF PSYCHOLOGY.

"The characteristics of mental development are best seen in the case of the intellect. The growth of knowledge may be viewed in different ways: (1) Under one aspect it is a gradual progress from vague to distinct knowledge The perceptions and ideas grow more definite. This may be called intellectual *differentiation*. (2) Again, it is a progress from simple to complex processes. There is a continual grouping or *integration* of elements into organic compounds. In this way the child's knowledge of whole localities, of series of events, and so forth, arises. (3) Once more, it is a continual movement from external sense to internal thought or reflection. Or, as it is commonly described, it is a transition from the *presentative*, or what is directly presented to the mind, to the *representative*, or that which is indirectly set before the mind by the aid of internal ideas. (4) Lastly, this progress from sense to thought is a transition from the knowledge of individual to that of general classics, or from a knowledge of concrete things to that of their abstract qualities."—*Ibid.*

Chapter XXX.

DEVELOPMENT.

THE FIRST STAGE.

In the first period of child-growth the active faculty is PERCEPTION. There is little thought or reflection. Actions are impulsive.

Perception soon leads to OBSERVATION.

This is a compound faculty, including *discrimination, comparison, combination,* and *abstraction.*

When a child first perceives an object it is indistinct, mixed, and confounded with other objects. A clear idea of it is obtained when it is separated or *discriminated* from its surroundings.

The first work of the teacher is to aid the pupil in getting *clear ideas of things;* in other words, to cultivate his *discrimination.*

Comparison must begin from the first. The most important lessons the child receives is in this direction. They teach him the distinction between:

long,	short,
high,	low,
heavy,	light,
near,	distant,

sweet,	sour,
noise,	harmony,
comfort,	discomfort, etc.

He soon learns what to expect; in other words, the faculty of *primitive judgment* is called into exercise. At first he reaches out to take the moon, or a distant tree, and cries because he cannot get it; but soon he learns to judge between what is possible and what is impossible. The first fear a child has is of falling. This comes so early in life that it has been considered an intuitive sense, which can hardly be concluded.

The First Lessons.—The very first lessons must lead the child to come to some definite conclusion from his own observation. Simple exercises like the following reach this end:

Drawing lines of equal length.

Assorting colored blocks or pieces of paper and arranging them in piles.

Judging of space, as by placing five blocks equal distances apart.

The Kindergarten system is full of work admirably adapted to develop primitive judgment, and no elementary teacher should be ignorant of the methods invented and applied by Froebel and his disciples.

When the child reaches the stage in his mental growth that he becomes so absorbed in what he is about as to be oblivious to surrounding influences, it is certain he has cultivated *perception, discrimination, comparison,* and *combination.* These steps have been taken and he has reached the stage where he has the power of *primitive*

abstraction. A very important gain has certainly been made.

It must be noticed that no effort must be made to cultivate the memory. This statement may seem to imply that the memory must not be cultivated. *It must be,* but in this first stage not directly. The child will remember and reproduce many things he has learned, but not because he has been made to repeat them as tasks.

THE REPETITION OF THE SAME SENSATIONS GIVES POWER OF RECALLING THEM. The meaningless repetition of what is not understood is not an effort of the memory.

The parrot does not talk because of its memory, neither can we conclude that a child has a good memory who can repeat a paragraph of Latin or Greek, or a part of Thanatopsis, or the multiplication-table. Memory is the retention and reproduction of what has been discriminated from other objects and compared and combined with them; in other words, *memory is the retention and reproduction of what is known.*

All of this relates to the *first stage* in mental development.

A new class of faculties will soon come into play. True memory and conception will be awakened into activity. The child will pass into the sphere of representation.

THERE ARE FOUR DISTINCT STAGES OF DEVELOPMENT IN THE LIFE OF A HUMAN BEING.

During the first stage the perceptive faculties predominate. They are the following: Sensation, Percep-

tion, Attention, Observation, Retention, Primitive Judgment or intuitive perception.

During the second stage the conceptive faculties predominate. These are also called the representative faculties. They are the following: Memory, Imitation, Conception, Imagination, Association, Recollection, Representation as exhibited in language, Primitive Judgment associated with Conception.

During the third stage the knowing faculties predominate. These are the following: Abstraction, Classification, Generalization, Explicit Comparison, Composition and Analysis, Judgment.

During the fourth stage the reasoning faculties are in their perfection. These are: Reason exercised in Demonstration, Induction, Explicit Observation, Reflection, and Speculative Thinking.

THE TIME OF SCHOOL EDUCATION, as to age, may be divided into five periods:

1. Infancy, extending to three years.
2. Early childhood, extending from three to about seven years.
3. Childhood, extending to about ten years.
4. Early youth, to about fourteen years.
5. Youth, to manhood.

During these five periods, most of what is accomplished by the schools must be done. After these eras have passed, the learner goes into the large school of the world, and carries the forces of home and school into the varied experiences of actual life. See *Tate.*

THE SECOND STAGE.

DURING THE SECOND STAGE OF SCHOOL LIFE THE MEMORY NEEDS SPECIAL ATTENTION.

It has often been said that memory is the art of attention. Tate goes so far as to say that "if we take care to engage the attention, we may safely leave the memory to take care of itself."

Memory is to a great degree independent of the will, since we cannot directly *will* to remember. Only by the power of association can a desired subject be recalled.

It is worse than useless to say to a child, "You know;" "Think hard;" "You *must* remember." If the child's life depended on recalling certain facts, a scolding or a whipping would only hasten its end. The memory, more than any other faculty, is destroyed by nervous excitement. Cool, collected children have the most reliable memories. Calm measures and quiet influences strengthen this power; opposite forces weaken it.

This faculty is more dependent on the condition of the stomach than any other.

Some may be disposed to smile at this statement, but nevertheless it is true that almost without exception persons with disordered stomachs have poor memories, especially of dates and names. It follows that no studies should be pursued early in the school-day that require an effort of the technical memory.

Two Kinds of Memory.—There are two kinds of memory: first, of facts and dates in their exact order; second, that which is based on judgment and proper classifica-

tion. The first is called a *local* memory, and indicates no great power of mind. It may be found in almost idiots. Blind Tom, the musical prodigy, has this sort of memory, almost to perfection. Young children often have great power of remembering unmeaning words and figures. This is generally considered an indication of mental power, but it may indicate its absence.

The second kind of memory is that which serves the uses of thinking and deciding.

The greatest error of modern education, during the second stage of child-life, consists in considering that most of the time must be spent in storing the mind with useful knowledge. It seems to be thought that if the verbal memory be made strong the rest of the mind will take care of itself.

Tate says, "THIS IS A GROSS ERROR IN EDUCATION. A mere verbal memory is not of the greatest importance; in reality, it is of very little account in the development of the other powers of the mind. Newton and Shakespeare were remarkable neither for extraordinary learning nor for unusual powers of memory. Many who are prodigies in this respect are never otherwise distinguished for intellectual strength; their minds become so loaded with the ideas of others as to render them incapable of exercising any independent thought."

The old text-book question-and-answer method of the middle ages has come down to us, and is cherished in many schools, while alchemy and astrology, its twin sisters, have been, long ago, relegated to oblivion. A good verbal memory may be turned to good account, but judgment based on comparison, the power of drawing

conclusions, and the faculty of quick and accurate sight and expression are infinitely more valuable. Tate says with great truth, "that boy whose memory is cultivated at the expense of his judgment cannot become a really useful member of society." This is a fact which cannot too often be repeated and too generally believed.

"THE more important varieties of contiguous association may be brought under the following heads: (1) First of all, we have impressions, actions, or events, which occur together or in immediate succession, as the sight of a bell swinging and its sound, the shining of the sun and the feeling of warmth, one bit of a tune and the following bit. Among the successions of actions and events the most important are those of cause and effect. The child comes to know that the sun warms, that rain wets, that hard bodies hurt, that his own actions produce certain results, e.g., the removal of obstacles by noting how one thing follows another, i.e., by connecting things according to the law of contiguity. (2) Next may be mentioned associations with objects, including persons. Thus the child connects the various properties and powers it discovers in things, such as the divisibility and the combustibility of wood with this substance; the voice, gestures, etc., of persons with these; also the uses to which things may be put, and the gratifications to be obtained from them with the objects themselves, such as the ball's capability of being rolled, the capability of the toy-bricks to support others, and so forth. (3) Our next group consists of local associations, which play a conspicuous part in memory. These include (*a*) connections of objects with places, as the cowslips with the fields, books, toys, etc., with the places where they are put away and kept; (*b*) events and places, as the meal, the lesson, the punishment, and so on, with the room in which they take place; and (*c*) places with other and contiguous places, and features of the environment with others which are contiguous in place, as the sea and the sandy shore, the river and the bridge across it, one house or street and the adjacent one."—SULLY'S HAND-BOOK OF PSYCHOLOGY.

Chapter IV.

MIND-INCENTIVES.

"Lulled in the countless chambers of the brain,
Our thoughts are linked by many a hidden chain.
Awake but one, and lo! what myriads rise!
Each stamps its image as the other flies."

THRING says, "It is useless pumping on a kettle with its lid on. Pump, pump, pump. The pump-handle goes vigorously, the water pours a virtuous glow of righteous satisfaction and sweetly beams on the countenance of the pumper, but—the kettle remains empty." When a man is in a sound sleep we must get at him in order to wake him up. After a thorough shaking he yawns and rubs his eyes, and looks around in a dazed stare, and wants to know what all this fuss is about. "Why can't you let me alone?" No, we cannot let him alone. He has work to do that must be done, and he must be wide awake while he is about it. He himself really wants to wake up, but sleep is too much for him; he must have outside help. So it is with the child. We want his help in the work of the world, and we must wake him up. It must be accomplished by incentives. What are they?

The pump and kettle illustration of Thring is not altogether an apt one, for the mind is not a kettle to be

filled by outside pumping in; it may better be supposed to be in a dormant state, and must be waked up—or in a germ state, and must be nurtured into maturity and symmetry. The mind of another cannot be incited to activity without a corresponding activity on the part of the teacher. An able, earnest teacher will always find able and earnest scholars.

Curiosity is an incentive. We are all extremely curious to know things hidden from us, for men are but children of a larger growth. A boy will sit on the bank of a river all day and fish, content with only an occasional nibble. He is curious to know what sort of a fish he is going to catch. Guessing is a favorite sport with children on account of this element of curiosity in it. If a teacher bring a closed box into the schoolroom and say, "I have something very wonderful in that box. Guess what it is," he will find every eye wide open, and every pupil showing evidence of the deepest attention and interest.

Skilfully used, this is a powerful mind-incentive; but it is easy to drop down into the most commonplace questions and answers, as, "What is this I hold in my hand?" "Jane, you may take it and tell me whether it is hard or soft," etc., etc. Certain kinds of object-lessons, as given in many schools, are of this insipid stamp. A genuine curiosity will often create enough disorder to send a strict disciplinarian of the old school to the insane asylum. It is easy to put children upon an intellectual race-course through curiosity. Let them run; as long as they can be brought to a stand when necessary, no harm will be done. A prudish exactor of order

and propriety will squeeze all the juice of life out of a school for fear of noise and indecorum.

The principal mind-incentives are love, praise, pay, fear, duty, and intellectual excitement. Perhaps the order in which they are given here is, as nearly as can be determined, the true statement of their value in inciting the mind to action. It would be profitable to stop and discuss each of these forces, but space will not permit it.

The Mind Reached only Through the Senses.—It must be remembered that the mind can only be reached through the senses. These are the only avenues to it. Therefore, the more acute the senses become, the more impressions they will convey to the brain, and consequently the more knowledge it receives. Everything the mind actually takes in it keeps, and some time it gives out again. Some impressions upon the senses do not reach the mind; but when they do, they are not lost. Consequently the work of the teacher must be, so to train the senses that they will readily convey impressions to the mind, and so to train the mind that it will keep what is given to it. This can only be done through *voluntary* activity. There must be freedom. Whenever a restraining or forcing process is undertaken the mind will not be free to act, and as a result it will not grow. Scolding or commanding destroys the free activity of the learner. He must willingly yield himself to the work before him. In other words, the teacher must get willing interest. This can be done at first by objects, and then by imagining, reasoning, classifying, or reproducing facts. If a teacher says, "You *must*

give attention! If you do not I shall keep you after school," he might as well talk to trees or stones; yes, better: for trees and stones are passive, but under these words the mind becomes antagonistic and repellent. Equally impossible would it be to excite interest by urging duty. "You *ought* to be interested. It costs so much to send you to school; why are you not interested?" It not only accomplishes nothing, but represses and often destroys interest.

The motto at the head of this article indicates a most valuable mode of procedure in inciting the mind to action. One thing always leads to another. Following up link after link, keeping the continuity of thought, and not permitting it to wander off into side issues, is essential. This holding the interest concentrated on one thing and its logical associates is an essential element in successful teaching. "Don't scatter; take aim," is as valuable an order in the school-room as in a charge in battle. To drive ahead towards the main issue is absolutely necessary if we ever expect to get there.

The Joy of Discovery is a most powerful mind-incentive. A child may cry "Eureka!" with as much real exultation and excitement as Archimedes, Columbus, or Balboa. When the little Columbus says, "I won't give it up," he is getting ready to jump up in joy and cry out, "I've got it! I've got it!"

There is no incentive in a dull, prosy following in the steps of another. The drowsy policeman who mechanically plods on in his accustomed beat has no incentive to quicken his tardy steps; but let him get on the

track of a thief, and see how he wakes up. Through this alley, around that corner, into this cellar, and lo! he has him! Lurking in an old box, covered up with a pile of rags, he pulls him to light. He has discovered him! The world is full of illustrations of this element of joy. Flowers, rocks, sand, water, wood, paper, and a thousand other things afford the objects from which discoveries can be made. The old method, with its command, "*Study your books,*" is as far removed from the new method, with its invitation, "Let us see what we can discover," as midnight is from mid-day.

JACOB ABBOTT, whose books show such a perfect knowledge of the nature of children, somewhere gives these four rules for parents:

1. When you refuse, refuse finally.
2. When you consent, consent cheerfully.
3. Often command.
4. Never scold.

Children, in fact, can be led anywhere, and made to do anything, by those whom they love. They are said to be ungrateful; and so they are for all that is done for them from duty; all the usual, regular care taken of them they accept as a matter of course. But only do something unexpected for their happiness and you win their hearts. Tell them a story, take them to see a sight, do anything for them which shows that you take an interest in them and in their pleasure, and you acquire an unbounded influence over them. I do not mean you are not to be firm and decided. "When you refuse, refuse finally." Do not say, "Well, my dear, I think on, the whole, you had better not go out. I'll think of it, and perhaps I'll let you go by and by. I am afraid you will take cold. I had rather not have you go; but, if you insist on it, I suppose you must." Do not say that, but either say "No," and end there, or else say, "Yes, if you wrap yourself up, it will be all right, and I hope you will have a pleasant time."

These are the two extra pennies which constitute a part of the joy and good of life.

Some people fail from attempting so much, and never accomplishing anything. Finishing a thing, doing it thoroughly before we begin anything else, is very important to our own happiness and the good of others. "The *end* crowns the work," said the practical Romans. Better to finish one small enterprise than to leave many large ones half done. *Nature finishes everything, and that makes a large part of her charm.* Every little flower is perfect and complete, from root to seed. Every leaf which will open in the next spring-time will have its little ribs and edges as exactly and completely finished as if it were the only leaf God intended to make in the whole year. —SELF-CULTURE: James Freeman Clarke.

Chapter V.

A FEW FUNDAMENTAL PRINCIPLES SETTLED.

1. The earliest evidences of animal existence are the SENSES.

No animal can exist without one or more of them.

It is this that distinguishes animals from plants.

2. The impressions received by the senses are carried to the BRAIN.

Unless the MIND received impressions through the BRAIN, it would have nothing to feed upon. It would not grow. This fact has many times been proved.

3. Impressions received by the mind, retained, and recalled, are IDEAS.

We can have no IDEA of anything we have not seen, or heard, or felt, or tasted, or smelled; or which is not like something we have heard, felt, tasted, seen, or smelled.

We have no IDEA how an angel looks. Why?

4. Proper arrangements of ideas are THOUGHTS.

If it should be said that the arrangement of land and water, and the character of the animals, in Uranus, is totally unlike anything on earth, we could have no IDEA of things there, consequently we could have no THOUGHT. An *idea* (or a *notion*) precedes *thought*. A *thought* is made up of *ideas*.

5. I read a book. I meet a friend. I am interested, excited; I laugh, cry, or am indignant. This is not pure thought; it is FEELING. This power I have: *I can feel.*

6. I now resolve to go away. I do go away, and do what the feeling led me to determine I ought to do. This power I have—the faculty of VOLITION. Here, then, is THOUGHT—FEELING—VOLITION.

Every possible mental operation may be reduced to one of these three things:

The INTELLECT—the faculty or organ of thought.

The SENSIBILITY—the faculty of feeling.

The WILL—the faculty of voluntary action—the faculty of volition.

7. When I place several thoughts together, they lead me to CONCLUDE or JUDGE that certain results take place. This is JUDGMENT.

It is synthetic.

8. I have several thoughts which I analyze into separate thoughts or ideas. This is the basis of REASONING.

It is analytic.

"We only reason in so far as we note the resemblances among objects and events. The power of reasoning implies the ability to detect similarity."—SILL.

Judgment combines thoughts, and affirms one thing to be true of another.

Reasoning divides and declares one truth to be contained in another. All reasoning involves judgment; but all judgment is not reasoning.

In these suggestions is food for thought.

How important these statements are! If they are wrong, then much that passes for good teaching is wrong. If they are right, all teachers should understand and obey their deductions.

I. *The mind evidently possesses power.*

Matter itself possesses power. It is acknowledged to have properties, and what are properties but powers? It has, for example, a gravitating, a chemical, an electric power. Physical science is seeking to determine the precise law, rule, and expression of the powers of body. If matter has power, much more has mind.

II. *That there are powers in the mind is evident from the differences in the mental states and affections of different persons.*

This conclusion might be drawn from the very differences between man and brute. The lower animals possess powers common to them and human beings; but there are others, such as the discernment of moral obligation, which are peculiar to man.

III. *This is further evident from the circumstances that are not always exercising every faculty or the same faculties.*

In every given state of mind there seems to be more than one power in exercise. But all the mental powers are not in action, or at least in intense action, every instant. At this moment I may be looking at the paper before me, and at the same time collecting my thoughts to write this paragraph. Immediately after I may be looking at the same paper, but my mind may have wandered off to some imaginary scene in which I and my friends are figuring.

IV. *The faculties are powers of one indivisible mind.*

They do not differ from each other, as the hand does from the foot, or the lungs from the heart. They are powers of one existence possessing a variety of attributes.

V. *The faculties are not to be regarded as necessarily operating one after another in regular order or at different times.*

It seems clear that several of the mental powers may be blended in one act. Thus at the same time that I am judging or deciding, I may be under the influence of hope or fear, of benevolence or prejudice. How many diverse powers may be exercised at one and the same time in that blade of grass, or in our finger; the gravitating, chemical, electric, vital; no one can tell how many.

VI. *It is difficult to form a classification of the faculties which deserves to be regarded as complete.*

This arises from a variety of causes. It may proceed from human incapacity, from the difficulty of penetrating phenomena which are so fugitive—that is, so briefly under the view—and so complicated, and from the circumstance that the faculties very much run into each other.

VII. *There may be a classification of the faculties embodying much truth and of eminent practical utility, though not professing to be perfect.*

It is true that the mind is one, but it manifests itself in a variety of ways, and its characteristic operations must be carefully noted and their peculiarities unfolded. It is only when the acts are marked, distinguished, classified, and named that one can be said to have any adequate idea of the nature of the mind.—McCosh's THE COGNITIVE POWERS.

Chapter VI.

TEMPERAMENTS.

SINCE the mind receives all of its knowledge through the body, it follows that the character of the body must influence the nature of the impressions. All do not receive the same impressions from the same objects, because they do not pass through the same media.

It is difficult to define temperaments; in fact, it is not necessary to define them. From ancient times, with great unanimity, they have been classified as four—

Nervous, Sanguine, Bilious, Lymphatic Temperaments.—It is self-evident that teachers should understand temperaments, for each demands a different treatment. The nervous child would be utterly overwhelmed by a punishment that would hardly move a lymphatic one. Teachers should study their own temperaments, that they may know what to cultivate and what to repress, for one's temperament may be much modified by habits and culture; in fact, by diligent practice it may be greatly changed. No temperament is perfect; neither has any person one entirely pure. There are all grades and qualities.

A diligent study of what we give below, with the help of an *honest* friend who is courageous enough to tell the

truth, however unpleasant it may be, will reveal more than a hundred "phrenologists," whose self-assumed assumptions are only equalled by the profundity of their ignorance. When pure, the various temperaments may be known by the following characteristics:

I. NERVOUS—*Vital: Brain.*

PHYSICAL.—Head large; abdomen small; nerves active; hair fine, silky, often white in childhood, often black in maturer years; skin thin, transparent; eyes bright, vivid, expressive; figure delicate, slender, often lean; motions quick.

MENTAL.—Mind moves actively; great love of poetry and music; often reticent, thinking much but saying little; often great love of nature; has ability to read thoughts from expressions of the face and motions; afraid of the dark; imagination very active; often slow to bestow confidence, but possessed of deep feeling; usually honest and open-hearted; when the digestive organs are not vigorous there is apt to be great mental disturbance and melancholy, producing a desire for quiet and solitude, with serious and religious feelings; when united with a little of the sanguine temperament it produces a meditative condition, delighting in a world of ideal creatures; often found lamenting over a lack of goodness or greatness, and longing for scenes or places of ideal perfection. When this temperament is not pure there is apt to be great irritability and lack of tongue-restraint.

II. SANGUINE—*Circulatory: Lung.*

PHYSICAL.—Lungs and arterial system large; pulse strong; muscles round and well filled; organism genial, warm; hair usually red or auburn; eyes blue; skin fair, reddish tinge; cheeks flush quickly; emotions of the mind quickly seen in the face; chest full; limbs rounded; countenance animated.

MENTAL.—Ardent and lively feelings; sudden emotions; transient affections; quick passions; impetuous desires; strong propensity to mirth; easily accustoms itself to a life of gayety; excessive grief, with floods of tears, which soon pass away; constant tendency to excess and exaggeration; intense expression and passion; resolutions suddenly taken, immediately executed; liable to be greatly in love with music, dancing, painting, eloquence; rushes on "where angels fear to tread"; widely prevalent in the French nation; often found among the Irish and Scotch.

III. BILIOUS—*Liver.*

PHYSICAL.—Cold or low temperature; hair black, strong, and abundant; complexion sallow; skin dry; eyes dark.

MENTAL.—When this temperament is joined with a strong muscular system there is found a modification of the pure bilious characteristic, and there will be found a *choleric* temperament. "Its tendency is to prompt and sustained activity, to enlarged plans, patient endurance in execution, to difficult enterprise, and courage and resolution in meeting obstacles. Its aims are high, and its ends comprehensive, demanding plan and calcu-

lation for their success, and time for their accomplishment. With a bad heart the enterprise may be malignant, and its prosecution shockingly cruel, bloody, and ferocious; or, with a good heart, benevolent, and urged on with a generous and noble enthusiasm; but in each case there will be determination, self-reliance, and invincible decision and persistence. Magnanimity, self-sacrificing chivalry, and exalted heroism will compel admiration for the actor, even in a bad cause, and secure lasting respect and veneration for the dauntless champion of truth and righteousness: and in each of these fields, so different in moral estimation, the *choleric* temperament may be found, but direct, determined, and persevering in both."—HICKOK.

IV. LYMPHATIC—*Stomach: Food.*

PHYSICAL.—Abdomen large; system clogged; expression languid; hair light; eyes tranquil, expressionless; countenance listless; features rounded; lips thick; flesh soft; body full, thick, disinclined to muscular exertion or mental action. This is called sometimes the *phlegmatic* temperament.

MENTAL.—"Mind heavy, torpid, and the man sluggish and often approaching the stupid. When only moderately phlegmatic, this temperament is especially favorable for well-directed, long-sustained, and effective mental activity." The moderately phlegmatic is self-balanced and stable, practical, judicious, and often cheerful. This temperament often exhibits remarkable instances of equanimity, patience, and calm self-reliance.

The Dutch are phlegmatic; the German phlegmatic tempered with the bilious and nervous. In the English mind the phlegmatic is practically in the majority; but in neither the Dutch, German, nor English do we find a pure phlegmatic temperament. The Dutchman plods, the German speculates, the Englishman executes. The Yankee temperament is more nervous, mixed with some sanguine.

"The mixed phlegmatic has given to the world the patriarch Joseph, the prophet Daniel, the philosopher Newton, and the patriot Washington."

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*TEMPERAMENTS IN EDUCATION.**

Individual Differences.—It cannot be denied that *individual differences come from permanent bodily and mental peculiarities.* Different amounts of exciting force are needed in order to call forth a given quantity of feeling in two cases. In the school-room, teachers are daily comparing pupils with respect to the intensity and duration of a feeling under precisely the same circumstances. What moves one to great exertion is hardly perceived by another. There are certain susceptibilities antecedent to activity. One child has a strong will-power, but no sympathy; another has great feeling, but weak will-

* It is wrong to confound the study of temperament with the study of phrenology. The one takes cognizance of the entire body, the other confines its inquiries to cranial and facial development.

force. In general, intensity of feeling is closely connected with strength of will, but not always. We are compelled to make each child the subject of special study. Just as the portrait-painter gives to each person before him individual attention, so must the teacher. The *true* teacher is *an artist* in a grander, higher, better sense than any painter, however perfect, can possibly be. He cannot classify all on the basis of their attainments in a certain branch of study. Better considerations, drawn from the nature of mental and bodily activities, govern class arrangement and grading. In doing this he must have the perfect freedom of an artist. How absurd it would be for a board of directors to dictate to a sculptor where he shall cut his marble; equally absurd is it for any one not a true teacher to assume to direct the *artist-teacher* in the classification of his pupils. Freedom that comes from thorough knowledge must never be abridged.

Hints to Teachers.—1. Determine the temperaments of your pupils. The difficulties will be found in those of mixed character. No one can mistake a pure *nervous, sanguine, bilious,* or *lymphatic* child; but, the truth is, such unadulterated specimens are seldom found. It is the mixed species that will give trouble.

2. Having determined to the best of your ability the predominating temperament, treat each child according to the following rules:

a. Do not put two pupils of the same temperament together.

b. Ask more questions of the lymphatic than the nervous.

c. Do not point out publicly to the nervous child his mistakes. Suggest quietly.

d. Speak quietly and slowly, in a natural tone of voice to the nervous girl; a little more emphasis can be used in addressing the lymphatic boy.

Do not say to the nervous girl, "Sit down;" "Don't jump around so much;" "Don't ask so many questions." It will do no good. A quiet, kind remark, in a quiet tone of voice, or simply a motion of the hand, will be sufficient.

e. Bear a great deal from the nervous without complaint. Scolding is mental arsenic to the sanguine-nervous pupil. A few emphatic remarks will often do the stolid boy good, but let them be made to him alone.

f. A nervous-sanguine child will bear a great deal of firm government. Don't be afraid to say quietly, but firmly and kindly, "No." Tears will flow; angry, hasty words very likely be uttered, but don't mind; keep cool, collected, and firm; say little, and that little kindly, in a quieting tone of voice. The shower will pass, and with the tear-drop on the cheek the penitent regret will follow.

g. If the bilious temperament is mixed with a little lymphatic and a little nervous, there will often be difficulty of a serious nature. Outbursts of passion will not pass pleasantly away, but there will be sulkiness, moroseness, backbiting, and a disposition to stir up mischief. This needs careful treatment. The best way to treat such cases as these is, (1) ask the doing of a favor; (2) show confidence by assigning some special work

where it is possible; (3) talk alone, and in a natural but decided tone of voice awaken the conscience; (4) be unyielding in action, but use great care how you threaten or promise, or seem anxious to obtain personal favor; (5) if you have been wrong, say so in a manly manner, but not in a craven spirit; (6) keep the reins as in driving horses, in your own hands; (7) ask a skilful horse-trainer how he deals with a balky horse, and apply his wisdom to the child.

h. Because a lymphatic child is apparently stubborn, be careful you do not mistake his motive. A nervous teacher trying to move a phlegmatic boy to action by more nervousness is a ridiculous sight. The immobility of the one is only matched by the impatience of the other.

i. The temperaments most injured by injudicious teachers are the bilious and nervous. The sanguine and lymphatic will stand uninjured a great amount of abuse.

Many a bilious boy has been sent to the state's prison, if not to the gallows, by ignorant teachers.

General Notes.—1. Be certain you understand your child before you punish.

2. Be also certain the child understands you before you blame him.

3. General, complaining remarks before the whole school are always out of place. No two pupils hear them alike.

4. The child of slow comprehension, sluggish movements, may in the long-run come out ahead.

5. The least hopeful temperament is the pure bilious-

lymphatic, when it has been subjected to wrong influences at home or in the street.

6. The most hopeful temperament is the nervous-lymphatic, when it has been properly trained at home or by associates.

7. Only by slow degrees can permanent changes be effected in temperament. *Be patient, but eternally persistent.*

Chapter VIII.

THE TRAINING OF THE SENSES.

It may seem to some of our readers that we are dealing with very trivial subjects in this and other chapters, but a moment's reflection will convince them to the contrary. There can be no perception without sense-action. The avenues to the thought must be in good order; distorted impressions come from disordered avenues. The training of the senses is important at each stage in life. No one is too old to neglect their exercise; in fact, the old need the most constant and active drill in this direction.

Directions.—Continuing the *objective* course, we will mention several additional exercises which may be used in all schools:

1. Hold up two different things of complex character until all have had sufficient time to see them. Put them out of sight; let them be described.

2. In the same manner exhibit three, four, five, six, etc., objects. Care must be taken not to confuse the mind by exhibiting too many at once.

Great skill is sometimes attained in the art of quickly seeing and retaining impressions. There was once a gentleman who could stand before the show-window of a

retail store five minutes and then go away and accurately describe all the objects exhibited.

Such power is rare. It is said that President Garfield possessed it to a remarkable degree.

3. Hold up a picture containing many objects. After all have seen it, remove and describe.

4. Place small pieces of camphor, alum, salt, and sugar on the table. Let them be discriminated by taste; afterwards named by sight.

5. In the same manner, use solutions of tea, coffee, sugar, and vinegar.

6. Let pupils go into a common retail store and look around, and then go home and write the names of all they saw.

7. Hearing sounds, as loud, low, high, bass, long, short, harsh, soft, and telling at once their qualities.

8. Hearing the tones of the octave on an organ, A, B, C, D, E, F, G, and telling the name of each as soon as heard. Do not sound them in order.

9. Feeling substances that are greasy, smooth, rough, large, small, round, square, cube, pentagon, dodecahedron, oval, sphere, etc., with eyes shut, and telling *at once* their shape and character.

10. Judging of distances; as height of a room, its length, breadth, the distance of a rod, a foot, a yard, 100 feet, etc., *and in every instance verifying the judgment,* and trying again.

11. Judging of comparative distances. Draw a line on the board by measure; go to another board and draw another line of the same length *without measure,* verify and try again. Take a stovepipe-hat, look at it carefully

at a little distance; draw a line on the board the length of its height, the length across the top, longest way, the shortest way; verify, try again.

In all possible ways discipline, train, correct, render sharp and accurate all the senses; and this not for a day or year, but as long as school-life continues. The time devoted to these exercises must be proportioned to the advancement of the learners.

Subjective and Objective Attention.—It ought to be said over and over again that subjective attention follows objective. The things that are unknown become known by those that are known. Commencing with what a child sees, hears, smells, feels, and tastes, we conduct him by successive steps to what he can only *conceive* he can see, hear, smell, feel, and taste. He sees a cat; he comes to know how a tiger looks; the little cat becomes a gigantic panther; the mound of sand, an immense mountain; and a small pool of water, Lake Superior. After several years of mind-training the conceptive faculty is so far developed that he can think of this earth as a vast globe, and of human beings as insignificant mites on its surface. By and by, when full maturity is reached and a thousand objective impressions have become subjective, *he can see* the ecliptic, the equator, the equinoctial, the precession of the equinoxes, the nodes of the moon, and all the planets in their revolution around the sun. By and by he can rise higher, and *conceive* the true constitution of the universe itself.

But he does not stop here. From the region of the *subjective* he goes into the domain of the *abstract*, and

quantity occupies his mental sight. He sees the conic sections, and computes the value of infinitesimal terms. The higher mathematics open to his enlarged sight. But he takes one step more and then reaches the utmost limit of human *seeing*. He grasps the subtleties of logic and reasoning, and judges, compares, and decides the value of arguments. *He goes no farther.*

In all of this there are these four steps:

1. From the objective to the subjective.
2. From the subjective to the conceptive.
3. From conceptive thought to the idea of quantity and its relations.
4. From the idea of quantity and its relations to the higher ideas of comparisons, judgments, and conclusions.

The foundation-stone of all is objective sight, hearing, smelling, tasting, and seeing. The judge begins here, and whenever he renders a decision he commences just where a little child begins, and sees and hears just as patiently and clearly as it is possible for a child to do.

No man, however high, ever gets beyond objective perception.

So much depends upon it during all life that its cultivation should form the essential and prominent work of an elementary course in all our schools.

A FEW SUGGESTIONS IN TRAINING THE SENSES.

It has frequently been said that the mind can only receive ideas through the medium of the senses. It follows, then, that the senses must be trained in all

the grades of a school course. No man or woman is too old to need the culture of the eye, hand, ear, as well as the nose and mouth. If the human machine is in good working order the mind will be likely to be stocked with thought.

Principles.—One sense cannot be trained without also training to some extent all the others.

Quickness of apprehension must be aimed at.

Correctness of statement is essential. Language is the vehicle of thought. Fragmentary expression is certain to lead to disconnected thought. Full statements in sentences are of inestimable value. First be certain that there is *correctness*, next quickness, then full statements.

There are two kinds of sight, feeling, etc.: one is the objective, or what the mind perceives when it looks out upon the outside world; the other is subjective, or what the mind perceives when it looks in upon itself and recalls, recollects, judges, or reasons. Primary grades are mainly concerned with objective culture; higher grades give more time to subjective discipline.

FIRST COURSE—*Outlines of Lessons.*

Suppose a piece of glass is presented to the children. After proper questioning, but NEVER TELLING, OR ASKING QUESTIONS THAT CAN BE ANSWERED BY YES OR NO, lead the children to look—look—look—and think and tell. The following full statement is obtained:

Glass is bright, cold, smooth, transparent, and brittle.

In subsequent lessons other objects are presented, and the following statements obtained:

India-rubber is opaque, elastic, inflammable, black, tough, and smooth.

Leather is flexible, odorous, water-proof, tough, smooth, durable and opaque, and is used for shoes, gloves, reins, saddles, porte-monnaies, and binding books.

Loaf-sugar is soluble, fusible, brittle, hard, sweet, white, sparkling, granular, solid, and opaque.

In the same manner use the following substances:

Sponge,	Wool,	Water,
A piece of wax,	Camphor,	Bread,
Sealing-wax,	Whalebone,	Ginger,
Blotting-paper,	Milk,	Rice,
Salt,	Horn,	Crayon.

SECOND COURSE—*Comparisons.*

After having obtained all the obvious qualities of the foregoing objects, or others equally as good, then commence a series of comparisons, taking care in each step to bring into active exercise *all the senses possible.*

Present the subject in outline thus:

	MILK.	WATER.
SIMILARS.	Liquid,	Liquid,
	Wholesome,	Wholesome,
	Heavy,	Heavy,
	Reflective,	Reflective,
	Used to drink.	Used to drink.

	Milk.	Water.
Dissimilars.	Opaque,	Transparent,
	White,	Colorless,
	Sweet,	Tasteless,
	Odorous,	Inodorous,
	Greasy.	Clean.

Compare all the substances mentioned above. It will often tax the observing powers of both teacher and pupils to the utmost to obtain correct and comprehensive statements. The results will pay.

THIRD COURSE—*Parts, Qualities, Comparisons, and Uses.*

	Parts.	Qualities.	Uses and Comparisons.
An Apple—	Eye,	Spherical,	
	Core,	Juicy,	
	Peel,	Hard,	
	Pulp,	Solid,	To be
	Juice,	Opaque,	supplied
	Stalk,	Odorous,	by the
	Surface,	Colored,	teacher.
	Inside,	Natural,	
	Outside,	Sweet or sour,	
	Seeds, etc.	Vegetable.	

In a similar manner treat the following substances:

Book,	Chair,	Pen,	Oyster,	Oil,
Egg,	Knife,	Key,	Water,	Milk,
Bird,	Orange,	Acorn,	Ink,	Stone,
Cork,	Glue,	Honey,	Needle,	Vinegar.

Remarks.—It matters not whether these lessons are called object-, objective-, or sense-lessons; their importance cannot be questioned. So many of our scholars are not able to see what is right before their eyes that often the teacher has occasion to be discouraged. They grow up having eyes which see not and ears which hear not, or if they do see, it is "men as trees walking."

The study of books will not give that quickness of perception so necessary to success in life. The outward world must be studied. What gives success to the chemist, surveyor, merchant, farmer, sailor, engineer, blacksmith, carpenter, bricklayer, and builder, but a certain sharpness *in seeing things?* The *successful* workman owes his superiority to the fact that he perceives what others do not perceive. Edison looks, feels, hears, and tastes what others have overlooked.

Sharpness in perception is at the foundation of the thousand improvements of the present age. We see and hear what other ages have seen and heard but did not know it. How often do we hear the expression, "I have looked at that a hundred times, but never saw it before"! Eyes must be trained to see, and all the senses to act.

Chapter VIII.

ATTENTION.

THE derivation of words often gives us correct ideas of their application. We have examples of this in attention, from *ad* to and *tendo*, I bend, and abstraction, *abs* from and *traho* I draw. Abstraction is the drawing the thought away from other objects; attention is the bending of all our powers to the thinking of that which has become the object of thought. There must be something to think of before we can think, and we must have the ability to keep our thoughts upon this something before we can secure attention. It is comparatively easy to fix thought upon one thing, but it is much harder to keep it there for any length of time.

Attention is not a distinct faculty as memory or imagination, but it underlies and is essential to them all. Although it originates nothing, yet nothing can be done without it. Let us now consider how it acts. When we go into the fields many impressions are made upon the senses. We at once select one object; this becomes the object of thought, perhaps only for an instant, when another is attended to, and another, and so on during the walk. If we see some one thing, as a flower, that we desire especially to examine, the will is brought into

action and other objects are excluded. Perhaps we shade our eyes so as more easily to exclude a desire to attend to anything else. We learn that at first there is an unwilling or involuntary attention, and then a willing or voluntary attention. When we return home we shut our eyes and mentally recall all that we have seen. The amount and vividness of this re-call-ing or re-collecting is exactly proportioned to the completeness of the attention.

Principle.—That which we *will* to attend to is recollected easily; the rest is easily forgotten.

Lesson.—The will must be called into active exercise if the objects of attention are to be apprehended.

Illustration.—The following dialogue is to the point. A pupil said, "I cannot understand this lesson."

"Have you studied it?"

"Yes, sir. I have been studying it for more than an hour, and I have no idea of a single line."

"Tell me what games you played at recess."

"Yes, sir. We played two," etc.

"You remember how many fish you caught last week, Saturday?"

"I brought home seventeen, and had lots of sport thrown in."

"You seem to remember outside things very well. Why can you not remember books as well?"

"The fact is, sir, that my mind is full of ball-games, fishing, hunting, and outside affairs. It's away off."

"That is the reason you cannot learn. If you can bring your mind here and think of what you are reading, you will remember and understand well enough."

Application.—Some way must be found to influence the wills of pupils before they can give attention to what they study. The means of accomplishing this are various. Under the old masters the rod was used, and in many cases it was effectual. The pupil felt "I must," then "I will," and afterward followed attention and success.

Here should follow a discussion of proper and improper motives, affections and desires, as means of bringing the will into vigorous exercise, and securing attention. It is of the utmost importance that they should be understood; here is the outline of the argument:

MOTIVES:

I.
1. Love of Truth, Purity, and Right.
2. The Joy of Discovery.
3. The Rewards of Success.
4. Love of Study.
5. Sympathy and Personal Attachment.
6. The Hope of Approval, or Desire of Esteem.
7. Desire of Influence and Power.

II.
1. Pride of Position and Desire of Glory.
2. Emulation.
3. Vanity of Success.
4. Fear of Punishment:
   - *a.* Of the Body—Pain;
   - *b.* Of the Mind—Disgrace—Low Marks;
   - *c.* Fear of Ridicule and Scolding.
5. Desire of Property
6. Desire to satisfy the Demands of our Appetites.

AFFECTIONS AND DESIRES:

1. The objects of *Desires* are things.
2. The objects of *Affections* are living beings.
3. The *Desires* appropriate their objects to themselves.
4. The *Affections* flow from us to other living beings.
5. Pity is (1) an emotion in view of distress, and (2) an impulse to relieve it.
6. Affection is an element of Love.
7. Affections that come from our association with others are:
   - *a.* Friendship,
   - *b.* Gratitude,
   - *c.* Sympathy,
   - *d.* Respect,
   - *e.* Love.

It is only when the emotion exists in an undue degree, or with regard to unworthy objects, when the supposed excellence upon which we congratulate ourselves really does not exist, or, when existing, we are disposed to set ourselves up above others for the lack of it, or even to make them feel by our manner and bearing, what and how great the difference is between them and us; it is only under such forms and modifications that the feeling becomes culpable and odious. These it not unfrequently assumes. They are the states of mind commonly denoted by the term *pride*, as the word is used in common speech; and the censure usually and very justly attached to the state of mind designated by that term must be understood as appli able to the disposition and feelings now described, and not to the simple emotion of pleasure in view of our own real or supposed attainments. That which we condemn in the proud man is not that he excels others, or is conscious of excelling, or takes pleasure even in that consciousness; but that, comparing himself with others, and feeling his superiority, he is disposed to think more highly of himself than he ought, on account of it, and more contemptuously of others than he ought; and especially if he seeks to impress others with the sense of that superiority.—JOSEPH HAVEN'S "MENTAL PHILOSOPHY."

Chapter XX.

PERCEPTION.

SOMETHING touches me, the nerves receive the impression and transmit it to the brain; there it produces a SENSATION. The intellect may not be impressed; if it is not, no permanent result is produced; if it is, a PERCEPTION is the effect. The act of perceiving a sensation is a *perception*. The result of this process, or what is perceived, is called a PERCEPT.

It will be noticed that perception is an act of the intellect. Many sensations reach the mind, but fail to become perceptions because there is no DISCRIMINATION aroused. This is the reason why so many times pupils hear, see, and even answer without remembering. They have eyes but they see not, ears but hear not. Their senses are acute, their brains in good working order, but the proper perceptions are not produced, therefore they learn nothing.

Two Steps in Perception.—1. *In order to perceive there must be* DISCRIMINATION.

A voice is heard, the head is turned, the eyes look, the countenance is brightened; here is evidence of discrimination. Other sounds are heard *but not perceived*,

because they are not separated from their surroundings. This voice is separated from its surroundings; in other words, *it is discriminated.*

At first all objects are alike to the child; soon it discriminates a light and perceives it; soon it discriminates a sound, as of a bell, and turns its head in the direction from which it comes; soon it discriminates its mother's voice, and attends to it; soon it discriminates her face, and smiles. Now PERCEPTION is fully established, and mental action assured. Until a child smiles in response to motives, there is little evidence that it has healthy mental action. From this moment on, the mind begins to grow, but notice the order: *sensation, discrimination, perception.* This is the one order from infancy through life.

2. *The second step in perception is* ASSOCIATION *and* RE-COLLECTING.

A child hears a sound which produces a pleasing perception. It smiles the next time it hears the same sound; it recalls the former association, and it smiles again. This association of one sensation with other sensations, and the ability to recall these associations, is the highest kind of perception. Here we notice the representative faculty. The order may be from nerves to the brain, or *sensation;* the impression, or the *presentative* faculty; the recalling of these impressions, or the *representative* faculty.

Notes.—1. The nerves must be in good working order if they are to convey correct messages.

2. The impressions must be distinct if the mind is expected to retain them.

3. Perception is a process of grouping. As there can be no association without grouping, the arrangement of material for thought must be carefully attended to.

4. Single sense perceptions are not likely to be recalled.

5. Touch and sight supply more objects than any other senses. These need careful cultivation.

6. The training of all the senses must be carefully attended to if we expect to reach the mind.

7. As all the materials of perception come through the avenues of the senses, it follows that the training of the senses is a subject of paramount importance to teachers. We learn to see by seeing, to hear by hearing, to feel by feeling.

One of the best methods of educating the perceptive powers is by the study of some science, as botany, geology, zoölogy, or some form of natural history. These ought to take us out of doors, put us in the fields and woods, show us Nature, open our eyes, and awaken observation. The botanist walks on, hour after hour, searching for some plant, till he detects its *habitat* by the side of a stream, or on the damp borders of a quiet lake. The ornithologist steps with the light tread of an Indian over the rocks and leaves, following the whistle of a thrush, or the cry of a cat-bird, till he detects the little lady, sitting in maiden meditation, fancy free, among the leaves, and watches her gentle movements, till he comes to know her by heart. Then the student of geology walks over hill and plain, reading a great history of one hundred thousand years in the swell and roll of the meadow, in the rounded escarpment of rocks, in the long level of the plateaus. But the powers of observation are educated by the study of art, as well as by the study of nature. Every child ought to learn to draw, as well as to read and write; not in order to draw poor figures and bad landscapes, but in order to sketch easily and readily whatever object he sees and wishes to remember. The power of drawing in perspective, which can be acquired in a week, is a satisfaction during one's life. Sketching picturesque objects—trees, faces, forms—leads to observation cultivates observation.—JAMES FREEMAN CLARKE'S "SELF-CULTURE."

Chapter X.

ABSTRACTION.

THE child at first perceives nothing distinctly.

Its lesson in gaining knowledge is to separate objects —to draw away one thing from its associate things. This is the first step in "abstraction." The child does not know *himself* for some time. A boy has been known to bite his own arm, as though it had been a foreign object. Children always speak of themselves as of another person. They are continually saying, "Mary wants some milk," or "Johnnie must have some candy." Generally during the third year there is a substitution of "me," "I," and "my," for the proper name, and this marks the commencement of an idea of the individual self. Now the recognition of personal feelings of pleasure, pain, hopes, and fears begins to be realized.

The higher idea of the mental self—the power of turning the mind inward and noticing mental processes—marks a much later period in mental growth. In fact, this period is often never reached by many whose mind-culture is neglected or misapplied. Teachers should carefully watch the beginning of this most important faculty. The following hints will be of value in pursuing this interesting investigation:

Two Facts in Abstraction.—1. It seems to be certain that children attribute life to everything they see. They seem to think *everything* can move and talk. A little girl of five once said to her mother, "Ma, I do think this hoop must be alive, it goes whenever I want it to." The mind soon gets the power of discriminating between living and dead things. But even after this power is acquired there is delight in playing with dolls, sticks, and small stones, as though they were men and women, horses, or cats and dogs. This habit marks the connection between the old infantile notions and the higher ideas of abstraction, and especially imagination.

2. The second step in the growth of abstraction is the power of attributing definite feelings to others, as wise, kind, and good, or their opposites. These qualities become personified in mother, father, brother, or sister, so that the very sight of these persons is certain to excite the feeling in them with which they are associated. The presence of a certain person has given them joy. He goes away, but when he returns and the child sees him, instantly the same feeling is excited again. Or a certain person has caused fear. The return of this individual is sure to make the child afraid, and it cries as if in great danger, and will not be pacified until the obnoxious personification of fear goes away. Thus we see the commencement of the faculties of *abstraction*, *association*, and *imagination*. How common is it to talk to the child through the language of abstract association. Instead of saying "dog," we say "bow-wow;" instead of "cat" we say "meow." The language is understood. But it must be noticed that at first the words apply to

all cats and dogs. There is no discrimination. Abstraction is not strong enough yet. One watch is the same as all watches; one name the same as all names. But soon different persons are discriminated; different dogs and cats known and named. Ideas become definitely abstracted and named.

It is very important to the teacher to notice how this growth proceeds and is encouraged in definiteness and distinctness. It is through the power of noticing the differences and likenesses that the faculty of *comparison* is early brought into play. At first a goat will be a "bow-wow," and the child seizes readily a pear for an apple or an orange; but soon these objects stand out clearly in the mind, for the child has noted and remembered differences by means of comparison. Roses and daisies are known, and the mind has acquired new and remarkable powers. It is not necessary to inquire at what age this comes. When it does come it marks a distinct era in the mental growth.

3. The growth of language keeps pace with the growth of ideas. The use of adjectives commences when abstraction and conception become definitely developed. The words "big," "hot," "bad," "good," "nice," are soon learned. A boy of twenty-two months old, seeing a rook fly over its head, cried out, "Big bird!" Teachers should be extremely careful not to give words until the ideas which they embody are certain to be clearly in the mind. Here is an axiom of the "New Education."

The old masters piled words upon words, with no care to ascertain whether they were understood or not; in

fact, they piled them on and crammed them in, fully knowing they were *not* understood. It was a practice not at all productive of mind growth, but rather of its destruction. How soon has a child an idea of number? How soon can it discriminate between yesterday, to-morrow, day before yesterday, and next week? A cat can count. When one was left with only one kitten it was miserable, but when two were left out of five it was happy. Horses have been known to count as high as three or four. It takes a long time before children can distinguish two from three and four, and so on.

NOTE.—See Sully's "Outlines of Psychology" and Brooks's "Mental Science and Culture."

METHODS OF DEVELOPING THE POWER OF ABSTRACTION.

Before the thought can be directed to one subject, it must be separated from other subjects. Abstraction is the power of drawing away a single mental image from its associates. By most authors it is called attention, but a moment's thought will convince any one that there must be the *power of exclusion* before anything can be excluded. This act of drawing away a single idea from its surroundings is *abstraction;* the act of fixing the mind upon one object, and keeping it there, is *attention.* How may we discipline the mind to select single objects of thought, is the question we shall try to answer.

Several Methods Explained.—1. By observing *similarities and differences.* When twenty or thirty pieces of

colored paper are placed on the table, the pupils can be asked to select and place side by side those that are alike. In the same manner a pile of stones can be sorted —first, as to size, and then as to weight. In the same manner bottles containing liquids of different colors can be classified, geometric forms arranged, and species of animals and plants inspected. Great care must be used to cultivate all the senses — hearing, smelling, tasting, feeling, seeing, and the faculty of reckoning distance.

In training very young children simple objects must, of course, be used. They can be interested in assorting a pile of sticks of different lengths, or making many lines on paper or the board, of exactly the same length as a specimen given. In all of these exercises the power of *comparing many different objects and classifying them* should be constantly exercised, and great care used in keeping the work so adapted to the learner's advancement that he will not lose interest in what is placed before him. He must not grow weary of what he is asked to do, for, as has been said before, and will often be said again, *interest* is of prime importance.

It must be remembered that this interest is to be obtained and kept through the work itself, and not through outside things. Keep at one line of thought, and in it hold the interest until some definite end is accomplished.

2. The faculty of abstraction can be exercised by the use of *name words*. The abstract idea must be gained before the word is learned. Mr. Sully says that "a little boy, twenty-six months old, while watching a dog

panting after a run, exclaimed, with evident pleasure, 'Dat like a puff puff'" (locomotive). It would have been folly to have required that boy to pronounce the word "locomotive" before he had an abstract idea of it; and what is true of this word is true of every important word learned. It is extremely interesting to trace the child's progress in the use of words.

Take foods, for example. At first no food is known, and nothing is abstracted from its surroundings. Everything goes to the mouth. Soon one thing after another is rejected until a few articles are selected from all the rest, and their names learned. It is by no means necessary that the words should be short ones at first. The old plan of commencing with "ab, eb, ib, ob, ub," and then adding a letter to each, and so proceeding until full words were built up, was a mistaken application of synthetical teaching. True, after a while the child had formed "abstract, ebony, ibex, object, ubiquity," etc., but in what condition was the mind left, and what power beyond memory was cultivated? In fact, nothing was accomplished, for when we come to consider what memory is, and how it is strengthened, we shall find that this faculty, under this old empirical way of teaching, was weakened rather than made strong.

3. Action words are readily learned. It is comparatively easy to gain abstract notions of running, leaping, rocking, laughing, etc., and their names. It is harder to teach abstract ideas of objects and their names. We can think abstractly of boy, girl, stick, but not as easily as of laughing, singing, and eating.

But when we come to teach the abstract idea of larger things, made up of many simples, we shall find difficulty. For example, we wish to teach the idea of a mountain. A small sand elevation is fashioned, and, pointing to it, we say, "Mountain." Smoke and fire are made to issue from its summit, and we now say, "Volcano." If we are not certain the abstract ideas are in the mind, the words should not be pronounced. According to the principles of good teaching, the words mountain, volcano, city, ocean, river, should not be uttered—the learner should not hear them—until the pictures of them, apart from all other objects, are clearly in the mind. You say, "Is this possible?" We answer, *It is possible.*

Pass beyond this boundary-line, and permit the child to use words conveying to his mind no abstract idea, and we enter at once into the land of rote teaching, and the old education. You can now only cram, regardless of present or future consequences. The very first principles of the philosophy of the mind oppose this teaching.

Use may be made of pictures. The larger the idea to be learned, the larger should be the picture. An example of this is afforded in the words ocean and city. It must be remarked that connecting words and particles, as and, but, the, by, of, in, an, a, etc., are used without thought. They really convey no idea. They are only words "thrown in" to fill up the spaces at first. The child says: "Cow, garden!" "Fire, house!" "Mother, sick!" "Finger, ache!" The filling-up words add no additional meaning.

4. Abstraction is next cultivated *by learning qualities.* These must, of course, be apprehended, by abstracting the ideas from objects. This is difficult. The teacher must proceed slowly and carefully. In future chapters, instruction as to the correct method of proceeding will be given. At present only a few hints can be thrown out. Take, for example, the word "good." It is at first associated with some person, as mother; then with some thing, as apple. It is then contrasted, as with a rotten apple, or bad person. Its opposite must of necessity be learned at the same time. Soon the child has the abstract idea of "goodness," "badness," "kindness," "cruelty," "love," "hate." Here we have a difficult lesson, but nevertheless one of great importance; in fact the value to be attached to the learning correctly of such abstract ideas as we have suggested cannot be overestimated. The lesson must not be given too early in the pupil's life, but gradually the abstraction gain possession of the mind. When the time comes that the mind apprehends abstract qualities, a stage of advancement has been reached indicating great mental power. Teachers must learn to watch the commencement of this period, for it marks an exceedingly important era in mental growth.

5. The highest abstract power possessed by the mind is *mathematical.* We do not say that a mathematical mind is the most perfect type of intellect, but it unquestionably marks the most complete power of abstraction.

No human mind can comprehend 1,000,000, and it has been stated that few can conceive even 100. When the mind comes to think abstractly of quantity, it has

gained a wonderful power. Children find it difficult to think of even the quantity 10 without visible objects. But teachers need not trouble themselves on this point, for numbers can and should be used to express *operations which may be understood,* even though the quantities represented by each separate number cannot be abstractly conceived. For example, we can understand the operation $5754 \times 7674 = x$, without abstractly knowing 5754 or 7674.

To form general notions, more than one object must be given. To form abstract notions, but one is required. Example: This apple is red. When we have separated the quality designated by the term red from the subject to which it belongs, we then have the abstract notion designated by the term redness. The same holds in all other instances.

In explaining the origin and genesis of universal and necessary ideas, in their abstract and universal form, we will take as the basis of our explanation and illustration the principle of causality; to wit, every event has a cause.

It is admitted that originally this principle is not given in this form. What is given? Some particular event and the judgment. This particular event had a cause. It is also admitted and affirmed that the universal principle is not here, as is true of contingent general principles given by the succession of particulars. For if you suppose the event repeated a thousand or a million times, all that you have in each instance is the particular event and the particular affirmation. This event had a cause. How then shall we account for the formation of the idea, or principle, under consideration? Let us recur to the individual fact above alluded to—the fact composed of two parts; the empirical and absolute parts. We will leave out of view the idea of succession, and confine ourselves to the one fact before us.

By immediate abstraction let us suppose the separation of the empirical, and the disengagement of the necessary and absolute. We then have the pure idea of the absolute and necessary. This idea thus developed, we find it impossible not to apply to all cases, real or supposed. We have then, and in this manner, the universal, necessary, and absolute idea or principle.

This process might perhaps be more distinctly explained by a reference to the ideas of body and space. These ideas are not originally given in their present simple abstract form. They are given in such propositions as this: This particular body is somewhere, or in space. Here you have the empirical part, body, and the necessary and absolute part, space. Separate the two, and you have the contingent idea of body, and the necessary and absolute idea of space. Hence the principle, universal, necessary, and absolute: Body implies space.—MAHAN'S "MENTAL PHILOSOPHY."

Chapter XX.

FACULTIES USED IN ABSTRACT THINKING.

I. Memory.

Memory retains all past ideas and perceptions in the mind.

Recollection recalls them.

Fancy takes old recollections, and modifies and combines them afresh.

Whatever we see we get a perception of; then a facsimile—a representative of this perception is stored away in the memory, but *it is not the same.*

Recollection is usually spontaneous; not an act of the will, though the will may help.

Memory is a storehouse of *materials for thought.* Without it one could not gain a knowledge of the *first principles* governing all action.

II. Conception.

That idea which gives one all the common properties of a *class* of objects—a *general* idea, embracing all particulars.

There may be (1) *phenomenal,* or *sense* conception; (2) *thought* or *understanding* conceptions; (3) *reason* (or *ideal*) conceptions.

III. Association.

The representatives stored in the memory are associated, still tending towards unity.

Association may be (1) from natural coming together in time; (2) from the likeness or strong contrast of one thing to another. This may be called association by suggestion; (3) or the mind can make arbitrary connections of *unrelated facts.*

Certain associations of thought will influence both the personal and national character.

IV. Abstraction.

Takes one idea from an association of ideas, in order to study and understand it better.

The chief operation in analysis.

V. Reflection.

A *turning back* of the mind to consider a past conception, either for (1) analysis; (2) finding its philosophical or logical connections; (3) or for using it to illustrate some other conception by comparison or contrast.

VI. Judgment.

A judgment is a determined connection of two conceptions as subject and predicate. There are two kinds of judgments:

1. Analytical.
2. Synthetical.

VII. Imagination.

It may be of two kinds:

1. Reproduction; and
2. Originally productive.

"A fanciful dress merely strikes the sense; imagination puts thought into it, and makes it to express some conformity to character and circumstances."

THE REASON.

The reason comprehends those things that go beyond or before experience.

The *principles* conditional for all knowledge belong to rational psychology; but, the reason's *use* of such principles comes within the range of experience.

I. The reason modifies every other faculty.

II. The reason recognizes the supernatural in nature; the understanding cannot attain to a first cause.

III. The reason holds the ideals, or archetypes of absolute perfection.

These archetypes, when manifested to the human reason in

(1) form (*beauty*),
(2) principle (*truth*),
(3) the personal self (*goodness*),

are spoken of as "The Beautiful," "The True," "The Good."

IV. The reason inspires the fancy and imagination, producing genius.

"The genius is either *artist, sage,* or, in the liberal sense of the word, *hero;* as in large degree he sees and expresses the 'Beautiful,' the 'True,' or the 'Good.'"

Suppose an engineer has constructed an iron tubular bridge, and finds that it is just strong enough to bear the strain it is subject to—a strain resulting mainly from its own weight. Suppose further that he is required to construct another bridge of like kind, but of double the span. Possibly it will be concluded that for this new bridge he might simply magnify the previous design in all its particulars—make the tube double the depth, double the width, and double the thickness, as well as double the length. But he sees that a bridge so proportioned would not support itself—he infers that the depth or thickness must be more than double.

By what arts of thought does he reach this conclusion? He knows, in the first place, that the bulks of similar masses of matter are to each other as the cubes of their linear dimensions; and that, consequently, when the masses are not only similar in form but of the same material, the weights also are as the cubes of the linear dimensions. He knows, too, that in similar masses of matter which are subject to compression or tension, or, as in this case, to the transverse strain, the power of resistance varies as the squares of the linear dimensions. Hence he sees that if another bridge be built proportioned in all respects exactly like the first, but of double the size, the weight of it—that is, the gravitative force, or force tending to make it bend and break—will have increased as the *cubes* of the dimensions; while the sustaining force, or force by which breaking is resisted, will have increased only as the *squares* of the dimensions, and the bridge must therefore give way. Or, to present the reasoning in a formal manner, he sees that the

$$\left.\begin{matrix}\text{Sustaining force in}\\ \text{the small tube}\end{matrix}\right\} : \left\{\begin{matrix}\text{Sustaining force in}\\ \text{the large tube}\end{matrix}\right. :: 1^2 : 2^2;$$

whilst at the same time he sees that the

$$\left.\begin{matrix}\text{Destroying force in}\\ \text{the small tube}\end{matrix}\right\} : \left\{\begin{matrix}\text{Destroying force in}\\ \text{the large tube}\end{matrix}\right. :: 1^3 : 2^3;$$

whence he infers that the destroying force has increased in a much greater ratio than the sustaining force, the larger tube cannot sustain itself, seeing that the smaller one has no excess of strength. But now, leaving out of sight the various acts by which the premises are reached, and the final inference is drawn, let us consider the nature of the cognition that the ratio between the sustaining forces in the two tubes must differ from the ratio between the destroying forces; for this cognition it is which here concerns us, as exemplifying the most complex ratiocination. There is, be it observed, no direct comparison between these two ratios. How, then, are they known to be unlike? Their unlikeness is known through the intermediation of two other ratios to which they are severally equal.—SPENCER'S "SYNTHETIC PHILOSOPHY."

Chapter XII.

FROM THE SUBJECTIVE TO THE CONCEPTIVE.

SEEING with the eyes shut what has never been seen with the eyes open is the great object to be reached in our schools. How can this be? You have never been to China, but you can see that country, if you have studied geography properly, with great correctness. If you have learned only the map, with its black lines and colored surfaces, you cannot see the real China, only the map of it.

The Object of Sense-training.—The prime object of sense training is to enable the learner TO SEE, HEAR, FEEL, TASTE, AND SMELL, IN HIS MIND, AS A RESULT OF SENSE-IMPRESSIONS. In other words, TO USE HIS MIND. For example: there is a kind of so-called geography in our schools, that is not geography at all, for it leaves no real impressions. It consists only in memorizing names and figures. The true learning of geography familiarizes pupils with the entire world, so that they can travel in imagination over it, even though they have never been ten miles from home. What is true of geography is also true of history. This study is nothing but a series of picture-impressions. We see Alexander the Great, Marathon, Thermopylæ, Waterloo, Saratoga. The viv-

idness of these thoughts is just in proportion to the value of the history studied.

In connection with this subject we quote the words of Mr. Geo. P. Brown as exactly to the point. He says:

> The teacher must recognize the fact that the learning of a descriptive lesson consists, essentially, in the development of a mental picture in the mind of the pupil; and that the merit of the teaching will be exactly proportioned to the clearness and sharpness of outline which this picture presents. He must also see that the teaching of the explanatory portions of a lesson consists essentially in causing the pupil to apprehend relations between ideas, and that those relations are chiefly those of cause and effect.
>
> He must test his pupils—not simply to ascertain whether they can repeat the words of the lesson, but to ascertain whether their mental picture of things described, and their understanding of things explained, are accurate.

In what way can teachers succeed in reaching such results is the great question before mind students to-day.

How to Teach Relations between Ideas.—The object is not directly to cultivate the memory; in other words, he must not stock the mind with useful facts, in store for the possible contingencies of life, *but to get it in shape to do the thinking of life.* Memory grows strong as other faculties grow strong. Without strength in other directions there is no strength of memory.

2. Effort on the part of the child must be voluntary. Pleasure must be associated with the exertions of the learner. It is a fundamental principle of mind-culture that all real growth is voluntary activity. Pleasure that comes from success is the purest, next to religion, that we experience; it is also the most beneficial.

3. The habit of associating similars and discriminating dissimilars is very important. This requires much thought when properly done. It is almost the first lesson in early life and the last in old age. From it come most important results.

4. The power of drawing correct conclusions and judgments is necessary. This is essential.

Now let us see where we are.

Suppose a student has been trained—

To think for himself; in other words, to see things correctly;

To act voluntarily;

To associate similars and discriminate dissimilars;

To draw correct judgment;

What next? *He will undoubtedly have clear and correct conceptions.* This is as certain as cause and effect.

WHY HAVE WE WRONG CONCEPTIONS OF OUR SURROUNDINGS?

1. Because we have no power of independent thought. We do not see things correctly. We do not do our own thinking. Somebody *tells us, we believe and act.*

2. Because we do not act voluntarily. We are led by others. We follow and get into trouble we cannot get out of.

3. We cannot associate two or three actions and from them conclude, but act on the spur of the moment from the first evidence that comes to us.

4. We have no power of calm judgment.

Such a person will be a slave, not a master—a follower, not a leader. The more we study the mind, the clearer we see the fact that all true education proceeds

from the known—what is seen, heard and felt and tasted —by successive steps to what is conceived to be seen, heard, felt, and tasted. When these conceptions are clear and correct, and we are able to express them so as to convey correct ideas to others, we have a good education. A mental machine in good working order is what we want. To make it as nearly perfect as possible is the work of the teacher.

My notion of a table, for example, is that of an object possessing certain qualities, as form, size, weight, color, hardness, each of which qualities is known to me by a distinct act of perception, if not by a distinct sense, and each of which is capable, accordingly, of being distinctly, and by itself, an object of thought or conception. The understanding combines these several conceptions, and thus forms the complex notion of a table. The notion thus formed is neither more nor less than the aggregate, or combination of the several elementary conceptions already indicated. When I am called on to define my complex conception, I can only specify these several elementary notions which go to make up my idea of the table. I can say it is an object round, or square, of such magnitude, that it is of such or such material, of this or that color, and designed for such and such uses.

Now when I affirm that the table is round, I state one of the several qualities of the object so called, one of the several parts of the complex notion. It is a partial analysis of that complex conception. I separate from the whole one of its component parts, and then affirm that it sustains the relation of a part to the comprehensive whole. The separation is a virtual analysis. The affirmation is an act of judgment expressed in the form of a proposition. Every proposition is, in fact, a species of synthesis, and implies the previous analysis of the conception, or comprehensive whole, whose component parts are thus brought together. Thus, when I say snow is white, man is mortal, the earth is round, I simply affirm of the object designated one of the qualities which go to make up my conception of that object. Every such statement or proposition involves an analysis of the complex conception which forms the subject of the proposition, while the thing predicated or affirmed is, that the quality designated—the result of such analysis—is one of the parts constituting that complex whole.—JOSEPH HAVEN'S "MENTAL PHILOSOPHY.

Chapter XXXI.

THE WILL.

"The star of the unconquered will,—
He rises in my breast,
Serene, and resolute, and still,
And calm, and self-possessed."—TENNYSON.

The True Order of Knowledge is: (1) willing, (2) doing, (3) knowing. Christ expressed this truth when he said: "If any man *will do* His will, he shall *know* of the doctrine."

Dr. Tyndall says: "The first condition of success is an honest receptivity, and a willingness to abandon all preconceived notions."

Pascal says: "Begin with being a better man, and you will soon have my principles."

If we desire to know anything, we must first be *honest and willing* to do whatever is necessary to be done. Without this no one can learn. We must feel *free* to exercise our will as we please. This is at the basis of all our accountability to God and each other—*a free will.* A child cannot be made to study properly against his will. Somehow, the consent of his will must be obtained. How can this be done?

Sully says: "The motive to voluntary action is the gratification of some feeling; as ambition, love of applause, etc., etc." Motives alone move the will. These must be studied carefully by the teacher. Let us take one or two illustrations.

A child has a great unwillingness to study a certain branch or do a certain thing. The teacher skilfully leads him to do a little, and shows him that the result is pleasant and easy. It may be arithmetic. Easy examples are selected; success is achieved, commendation is given, and pleasurable emotions a reexcited. Skilfully, more difficult problems are assigned, the same success is gained, and more pleasure received. Soon he is thoroughly interested, and new difficulties can be easily surmounted, for the will is thoroughly aroused. How? By means of carefully-applied motives.

Belief comes before *desire*, and desire comes before *willing*. From desire and willing come impulse. When the will is not governed by *proper* motives, it is said to be "ungoverned" impulse.

Think carefully of this analysis. Notice your mental processes.

A little girl desires to go to a neighbor's. Why? Because she *believes* there is something there she either wants to see, or do, or tell. Her belief is strong, therefore her motives are strong, thus her will is strong. Now, if her will is not governed by proper motives, she may become impulsive, and if not permitted to do as she likes, she may throw herself down in a fit of crying or passion. Let a student of the mind commence a careful examination of personal experience in the following manner:

Think of something you desire strongly to have or do. Why do you desire it? Because you believe its possession will do something great for you. If what you desire is within your possible reach, and its possession will be of great good to you, or at least you think it will be, then the motives to attempt to get it are great, and your will is strongly exercised toward its possession.

Are these things so? Examine yourself and see. In this way alone can you become a student of the mind. Your mind is like all other minds in its great features. Carefully answer the following questions: Do all statements made to you excite desire? Why not? Why does a child desire candy? Why do you desire a good salary? Why are we all gratified with a high social position? Does a beautiful landscape or charming music excite desire? Why? Why do you desire to become better? Why do you desire to go to heaven when you die? Does pain excite desire? How?

Sully says: "Desire implies a sense or consciousness of want, deficiency, or the absence of something." Is this true?

All of this is preliminary to the subject we have before us, but it is necessary that these questions should be settled before we proceed.

Topics in Studying the Will.—The following topics in studying the *will* must be considered:

1. The possession of a will in us implies an intellect. In other words, we must think, compare, imagine, etc., before we can intelligently will.

2. The possession of a will in man implies feelings of like and dislike, hope and joy, as well as the stronger

passions of hate and love. In other words, if we *will* intelligently we must have sensibilities.

3. By an effort of the will we can change our intellectual processes, and greatly modify our sensibilities. On the other hand, the intellect and the sensibilities may greatly change the will.

4. "The understanding reaches the will through the sensibilities."—UPHAM. What does this mean?

A Suggestion to Teachers.—Study your own mental processes, not so much by reading what others have said, as by thinking concerning your own mental acts, and observing the artless actions of children. Writing carefully the results of your observations will help you amazingly.

A Few Facts.—1. All parts of the mind are intimately connected. We can have no knowledge without a previous sensation; no memory without attention; no reasoning without both memory and association; and neither reasoning nor imagination without the power of perceiving relations. The various activities of the mind seem to stand side by side, ready to assist each other, and are comparatively powerless without mutual aid. Take, for example, the emotions, desires, and passions. It is self-evident we cannot approve or disapprove, love or hate, admire or loathe, without some knowledge of the thing to be approved or disapproved, etc.

2. If we could find one whose intellect is apparently destroyed, we should find one whose will is wanting. A little thought concerning mental action will convince any one that the will directs and controls the intellect. We *will* to imagine, memorize, reason, etc.; in other words,

the will is behind mental processes as a sort of motive force, impelling to action. The value of intellectual action depends upon its connection with the *will*.

3. It follows, then, that there can be no will without something to be willed, as there can be no evidence of force without some material substance to be moved. We cannot will to love or hope unless we have love or hope, so that if there is a strong will there must be something that can be as strongly *willed*. We cannot strongly *will* to hate unless we can strongly *hate*. These statements are axiomatic, but, like all other axioms, are important in a process of investigation.

4. The will can change our intellectual processes and modify our feelings, *but not directly*. This is a fact especially important to teachers. Let us see what this means. Read in Shakespeare, Antony on the death of Julius Cæsar. What means does he use to incite the multitude to revenge, slaughter, and burnings, and rouse the will to terrific action? He talked to the people of the greatness of Cæsar; he showed them the bloody mantle, then he appealed to their sensibilities by telling then concerning his bountiful legacies. By these means he got possession of their wills. If he had appealed *directly* to the wills of his hearers nothing would have been accomplished. What is true here is true everywhere and always.

Knowing does not control the will. A certain person comes to the intellectual conclusion that a definite amount of property will benefit him, but if there is no desire or emotion he will make no effort to obtain money.

A drunkard may *know* that intemperance will ruin health, and yet he will not reform. Your hope of success depends upon making him fear or dread the results of his indulgence on his *own* life or happiness. You can only reach him through his sensibilities. We may know there is pleasure or pain, but until we have these emotions they will not influence our wills.

Locke says: "Let a man be ever so well persuaded of the advantages of virtue, yet, till he hungers and thirsts after righteousness, till he feels an uneasiness in the want of it, his *will* will not be determined to action.

"Good, ever so great, must raise *desires* in our minds before it reaches our wills."

The sensibilities stand between the thinking powers and the willing power. The following diagram will show our meaning:

KNOWLEDGE. { SENSIBILITIES. } WILL.

"Strike out the sensibilities and you excavate a gulf of separation between the intellect and the will which is forever impassable. There is from that moment no medium of communication, no bond of union, no reciprocal action."—UPHAM.

Chapter XXV.

DISEASES OF THE WILL.

THE diseases of the will are classified by authors under four heads:

I. LACK OF WILL-POWER.
II. EXCESS OF WILL-POWER.
III. CAPRICE.
IV. EXTINCTION.

I. LACK OF WILL-POWER.

Guislain says that "persons affected in this manner can will to themselves, mentally, according to the dictates of reason, but the will is not transformed into active determination." Such individuals may have excellent judgment and memories. Some persons, touched with this disease, say, "I know I should do as you say, but my strength fails me when I ought to act." Prof. J. H. Bennett speaks of "a gentleman who frequently could not carry out what he wished to perform. On one occasion, having ordered a glass of water, it was presented to him on a tray, but he could not take it, though anxious to do so." Instances like these could be gathered from medical works, all showing that there is a disease affecting the will alone.

But how does this concern teachers? There are mild forms of this disease in all our schools. Every teacher of several years' experience can recall many instances of apparently uncalled-for stubbornness, in which children from no apparent cause refused to do some simple act. No one can tell why the child acted as he did. Teachers and parents, and even the child himself, can assign no reason, only he apparently *will not*, while in fact he *can not*, and no amount of punishment will correct the fault. The more the mind is studied the more it is seen that much of the severe punishment of former days was through ignorance of mind diseases. Lack of will-impulsion is by no means uncommon among adults. Cases are seen in life daily.

What shall be done with children who seem to have a lack of will-power?

1. Negatively—never scold or blame. It will only intensify the difficulty. The author of this book, in his younger teaching days, punished a boy severely for not doing what it seemed to him he could as easily do as turn over his hand if he would. Why he would not was a mystery, and remained so until a study of mind-diseases revealed the cause.

2. Negatively—the cure is not through the will; let that alone. Other powers must be rendered active, in hope that through them the will may resume its normal tone. For example, use motives, gain confidence, excite affection, laughter, joy, hope, anticipation, even anxiety, and a little fear. Even the simple act of jumping or reading, singing or telling a story, may affect the will favorably.

3. Moral influences give tone to the will early in life. Children, seemingly unable to do what they ought to, or to resist doing what they ought not to do, can be strengthened by moral feelings. Let even a young pupil be thoroughly convinced that a certain line of action is wrong and will surely produce bad results, and there will be a strengthening of the will in that direction.

4. Repeating one kind of work many times strengthens the will. Reading aloud the same selection five times; writing the same number on a board thirty times; walking on a certain track backward and forward ten times; anything that tends to give the power of doing what one is told to do will strengthen this faculty.

5. The habit of doing without asking a reason strengthens the will. A child who is always told the reason why is not likely to grow up with an improved will. He comes to expect an explanation, and if he cannot understand what is said, he is liable to refuse to do what he is asked. A boy is asked to take a letter to a neighbor's and get a certain article. He asks, "Why?" An explanation is attempted, he cannot comprehend the words, and refuses to go on the plea, "It's of no account." The difficulty is in the way the boy has been trained. The probability is that unless a radical change takes place in the manner in which he is educated he will grow up either with no will of his own or with a stubborn disposition. Either result is possible.

II. EXCESS OF WILL-POWER.

We are indebted for many thoughts and facts in this book to the work on "Diseases of the Will," by Th. Ribot.

A case is mentioned of a woman of intelligence who used to feel the need of going into some lonely place and shouting aloud. Under these circumstances she would give vent to her grievances and complaints and surroundings. She knew perfectly well that it was wrong to do what she did, but she said "she must speak and satisfy her grudges."

A victim of melancholia, pursued with the thought of suicide, arose in the night, knocked at his brother's door, and cried to him, "Come quick; suicide is pursuing me, and soon I shall be unable to withstand it."

An irresistible impulse to steal, set fire to houses, speak out in meeting, snatch a chair away when one is about to sit down in it, deny doing a favor when kindly asked, belong to this class of disorders. Such cases are frequently met with in schools. A pupil is suddenly seized with an irresistible impulse to do something outlandish or wicked. He cannot explain why, and the teacher is at utter loss to know what to do. The scholar, when asked, is as much nonplussed as the rest, and when earnestly pressed to give a reason can only say: "I cannot tell what made me do it. Something pushed me on; I could not help it."

Instances are mentioned of a young woman who chewed

up her gowns; of an art amateur who punched a hole through the canvas of a painting; of a man who was haunted by the thought that he might commit to writing that he had been guilty of some crime; of a boy who collected and kept all the strings he could find, and of a man in Iowa who collected all the old scraps of iron he could get hold of.

Some pupils are seized with an irresistible desire to get a great number of pencils or certain kinds of paper. They are laughed at for the habit, but it does no good. These instances show that it is necessary for teachers to be on the lookout for such cases in the school-room. When a child is suddenly, and without apparent cause, obstinate, refusing to do what he has been usually willing to do, or persisting in doing what he knows to be wrong, it may be suspected that his will is diseased. If this is the case, punishment will do no good. Other means must be used. The remedy is through the attention. When the pupil loses the power of governing himself, he is continually liable to be governed by caprice and impulse. The methods of cultivating the attention have been spoken of in a former chapter. These must be carefully adapted to the wants of individual cases. In more instances than some are willing to admit, the teacher becomes a physician of the mind, and, perhaps, an adviser to parents concerning the healing of the body; for bodily conditions have much to do with the states of the mind, especially the will, memory, and attention.

Axioms and Directions.—1. *External causes* affect the will.

2. Exciting the *voluntary* action of the will is the aim of the teacher.

3. The cause of disorders of the will often may be found in bodily conditions.

4. A careful distinction should be made between *will*, properly active, and will in diseased action, or *wilfulness*.

5. A thorough knowledge of *motives* is necessary in order properly to treat the will.

6. The will must be governed by moral influences. An immoral character invariably produces a disordered will. Strong moral convictions produce strong will-power.

7. Following from the foregoing comes the fact that a truth-loving person *will be* a truth-seeking person. To believe a doctrine with all the heart, mind, and soul will produce corresponding determinations as to life-actions.

8. Since morality comes from a belief in the truth, or truth underlies morality, it follows that we must know the basis of morality before we can know the ultimate basis of all will-power. This is LOVE. Without sincere love to God and man there can be no true morality, no truth, and no intelligent will.

Remarks.—It is often said that a person addicted to bad habits yields to temptation on account of a weak will. This is a wrong conclusion. In such persons the will is weak toward the right, but strong toward the wrong. A drunkard *will have* his dram. His will is overmastering. The right has little or no influence upon him. The difficulty with him is, his will is unbal-

anced or diseased. He has turned the whole course of his determinations in the wrong direction.

HABITS DETERMINE THE WILL. Let a person continue in a certain line of action persistently, and he will reach a point where he cannot will to do otherwise than he has been doing. One kind of willing will suffer a paralysis, but another kind will grow stronger. It is so with the eyes: when one is lost the other grows stronger than before. A habit of right willing will weaken the tendency of wrong willing until, by and by, it becomes almost, if not entirely, extinct.

What, then, constitutes strength of will? It is that quality of the mind which is prompt to decide, and, having decided, cannot be moved from its purpose, but holds through evil report and good report; overcomes obstacles; shrinks from no difficulties; relies on its own judgment; does not yield to fashion,—and so presses to its mark always. Strength of will is the power to resist, to persist, to endure, to attack, to conquer obstacles, to snatch success from the jaws of death and despair. It is the most vital element in character. It is essential to excellence; for of him who has it not it must be said: "Unstable as water, thou shalt not excel." A man of weak will is at the mercy of the last opinion; is unable to make up his mind, or, having made it up, to keep to it. He is undecided, and cannot decide. He sees the right, and drifts towards the wrong. He determines on a course of conduct, and then quits on the first temptation Weak as a breaking wave, a helpless idler, wax to take a stamp from anything stronger than himself, if he adopts a right course, it is only by accident; and if he is virtuous, it is only a piece of good luck. . . .

Self-reliance, self-restraint, self-control, self-direction, these constitute an educated will. If the will is weak, it must be taught self-reliance; if it is wilful, it must have restraint; if it is violent, it must acquire self-control; if it is without any true aim, it must be educated to self-direction. Freedom is self-direction. No one is really free who cannot guide himself according to his own deliberate judgment; a man who has no principles, therefore, cannot be free.—JAMES FREEMAN CLARKE.

Chapter XV.

KINDS OF MEMORY.

DISORDERS OF THE MEMORY.

It frequently happens that what we know as well as we know anything, at once, from no known cause, is unable to be recalled.

Instances are not wanting where one's own name is forgotten. A gentleman recently, calling at a post-office, said: "Please give me my letters." "What name, sir?" brought no answer, until a letter addressed to himself was taken from his pocket and handed to the clerk.

It is not uncommon for persons to meet well-known acquaintances and be unable to recall their names. The situation under such circumstances becomes exceedingly embarrassing, and is frequently taken as indicating a want of regard. This is not the case, for memory of dates and names is in no way connected with affection.

A poor memory of dates is more common than of names. Ordinarily, people remember faces pretty well. No remark is more common than, "I remember you distinctly, but I cannot recall where I have seen you." Memories of the following particulars differ very widely, as:

a. Locality where we have been before.

b. Points of the compass. Some are never "turned around;" others are never certain.

c. Names of acquaintances.

d. Names of historical characters.

e. Dates of family events.

f. Dates of historical events.

g. Words exactly as they were spoken.

h. Narrations; some can never tell the same story alike twice in succession.

i. Poetry; some easily remember poetry, but can never commit prose.

These are a few of the many specific kinds of memory that exist in varying degrees of strength in all persons.

One Kind of Memory Often Wanting.—When this is the case, another kind is often very strong. A young man of our acquaintance could remember with the utmost tenacity any number of dates and names with no exertion. Nothing of this nature was ever forgotten. He delighted in what, to many others, was distasteful and repulsive. But this same young man could not reason out the simplest proposition in geometry, nor could he commit the shortest one to memory. In most persons some kind of memory is strong. One can remember all the various kinds of odors with the utmost precision; another can arrange, with no error, all the shades of each of the primary colors; another can recall the appearance of a house, or room, or street, seen but once; another can reproduce, most correctly, strains of music.

EACH PERSON SHOULD KNOW ON WHAT POINTS HIS MEMORY IS THE STRONGEST AND WEAKEST. Also,

teachers should know the peculiarities in the memories of each pupil under their care. It is worse than cruel to require a child to attempt to remember *what he cannot,* but this experiment is daily tried, simply because teachers do not know that one kind of memory is sometimes wanting, or, at best, exceedingly weak.

MENTAL DISEASES.

1. *The double life.* To some people the memory of certain days is a blank. Nothing can be recalled. A woman described by Dr. Azam lived two distinct lives. In one she was serious, grave, reserved, and laborious. In the other she became gay, imaginative, vivacious, and coquettish. When she was in one condition she had no memory of what took place in the other condition. Instances like this are extreme, but many like them are often seen among young people. At times a child will be bright and attentive; then for a time he will be dull and absent-minded. We think, "Is it possible this is the same child as last week?" Impatiently, the inconsiderate teacher says: "What is the matter with you, Mary? I taught you this last Monday, and to-day it seems as though you had never heard of it before." The only reply is a wondering stare.

Children acting in this manner have a mental disease, known as *amnesia,* although in an undeveloped form. They are likely to have attacks of somnambulism.

This disease is often called *an evolution of two memories* independent of one another. Many people live this kind of double life, and it often commences to show itself in early childhood.

2. *Memory exaltations.* This manifests itself in impressions of having been in a certain place, or seen certain things, for which no cause can be assigned; also in at once distinctly remembering what has been for years forgotten. Several instances will be mentioned in the next chapter illustrating this kind of disease.

3. *The decay of memory.* Do we ever forget? is an interesting question. In old age it is undeniable there is forgetfulness, but it can be traced to a want of use. In certain bodily states the memory suffers, and when certain portions of the brain are removed, a total loss of one kind of memory is effected. Children, when partially sick, often forget more than they learn.

WHAT TEACHERS SHOULD DO.

1. Observe symptoms. They must be mental doctors, and take frequent *diagnoses* of memory phenomena. Is a child absent-minded, having the habit of looking at the teacher, and yet thinking of something else? Break it up by counter-irritants. Put before the mind strong motives, tell cheerful stories; excite laughter; get the mind away from the dreamland, into present light. *Never scold.* One five minutes of fun is better medicine than an hour of the stern "must."

2. Look out carefully for morbid influences on the memory. Children should never be sentimental or love-sick. Hearty affection is grand; but dull, lifeless, mock-love is a disease. Some young people love to read sentimental stories, and think them over, and talk about them. Remove such influences. A hearty, clear, open

affection, tempered with an abundance of sunlight, good food, pure water—outside and in—clean rooms, and good sleep, will drive away a hundred cobwebs from sensitive brains and nerves, and wonderfully strengthen weak memories.

3. Tax the memory to the utmost, but do not, under any consideration, let the children think that you are giving them tasks. When the complaint is heard, "O dear, I never can remember all this!" it may be certain somebody has erred. It is probably the teacher. The memory *must* work, and work hard, if it is to gain strength, but it must work willingly and cheerfully. This doctrine is sound, and should be preached everywhere. It is not work that kills, but unwilling, enforced, uncongenial tasks. No beings on earth have more active memories than children. Let them exercise them to the utmost of their powers, but willingly, cheerfully, and in the line of their natural desires.

INCIDENTS OF DISORDERED MEMORIES.

It is important for teachers to know the condition of mind in its diseased as well as in its healthy state. For the purpose of giving students a glimpse of what the memory may become, we present the following incidents:

Mr. Von B——, envoy to St. Petersburg, was about to make a visit, but could not tell the servant his name.

Turning around to a gentleman who was with him, he said, with much earnestness, "Do tell me who I am!" The question excited laughter, but as he insisted on being answered, he was told, upon which he finished his visit. It is frequently the case that business men forget some part of the multiplication-table or how to spell a familiar word. No cause can be assigned, but the fact remains. Men make allowances for themselves when teachers often would make no allowances for their pupils.

Many instances are mentioned in works on mental philosophy of the inability to speak the right words at the right time. A gentleman told a friend that "he had had his umbrella washed," the meaning of which was gradually discovered to be that he had had his hair cut. This man's health was good, but he finally died of apoplexy.

In hospitals it is not uncommon to find patients deprived of a part of their vocabulary. They cannot remember the words scissors and window, but can say, "the things that cut," and "what you see through." They forget names of persons, but can designate them by their titles, profession, inventions they have made, or books written. In many serious cases of such loss of memory, the patient is able to play games that require skill and foresight with great success, showing that reasoning and perception may be strong, while certain other parts of the mind are weak. In some cases a man knows very well what he wants to say, and can think the words but cannot utter them. An individual under these circumstances said, "I made every effort to reply,

but it was impossible to utter a word." Instances of this kind have led some authors to distinguish two verbal memories—the one by which we become conscious of the word, the second by which we are able to express it.

A Wrong Conclusion.—It is wrong to suppose that because a child knows *therefore* he can express. The therefore does not follow. Every-day experience contradicts the statement that all that expression needs is knowledge. Speakers are constantly failing because they cannot command themselves. They become vexed continually, and often say to themselves, "If I could only express what I know and feel, if I could tell in public the things I know and can express to a few, I should be satisfied." The power of memory does not go hand in hand with the power of expression. This is a very important item for teachers to remember.

If teachers will take the trouble to classify memory-failures, they will find that proper names are the most frequently forgotten, then names of concrete things, then substantives not formed from adjectives, and lastly adjectives and verbs which express qualities, states of being, and acts. It has been noticed that many idiots have memory only of adjectives.

Mental images of persons and things, without their names, are easily remembered; abstract concepts can only be formed by the aid of words that give them stable form. This is the reason why verbs, adjectives, pronouns, adverbs, prepositions, and conjunctions are more easily fixed in the mind than substantives.

Gestures and motions are longest remembered. One incident is mentioned of a patient who could not re-

member motions. His case was severe. The physician said: "I held my hands before me, and moved my fingers, as if I were playing the clarinet, and requested the patient to imitate me. He did so with perfect precision. A few minutes later I asked him to go through the same movements. He reflected for a time, but was entirely unable to recall them." This was an extreme case of disease, probably incurable. When signs of recovery begin, they return in inverse order to that in which they disappear.

Instances in great numbers show that memory is tenacious. What is committed to it is retained, even though it cannot for years be recalled. It is through some imperfection in the mind that we cannot at once recall perfectly all we have seen, heard, or read. Stored away in one of the countless chambers of the mind the memories are there, only waiting for a favorable opportunity to spring into life and activity.

A FEW INCIDENTS.

"A lady in the last stage of a chronic disease was carried from London to a lodging in the country; there her infant daughter was taken to visit her, and after a short interview carried back to town. The lady died a few days after, and the daughter grew up without any recollection of her mother till she was of mature age. At this time she happened to be taken into the room in which her mother died, without knowing it to have been so; she started on entering it, and, when a friend who was along with her asked the cause of her agitation, she replied, 'I have a distinct impression of having been in this room before, and that a lady who lay in that corner, and seemed very ill, leaned over me and wept.'"

"A clergyman endowed with a decidedly artistic temperament (a fact worth noting) went with a party of friends to a castle in Sussex, which he did not remember ever to have previously visited. As he approached the gateway he became conscious of a very vivid impression of having seen it before; and he 'seemed to himself to see' not only the gateway itself but donkeys beneath the arch and people on the top of it. His conviction that he *must* have visited the castle on some former occasion made him inquire from his mother if she could throw any light on the matter. She at once informed him that, being in that part of the country when he was about *eighteen months* old, she had gone over with a large party, and taken him in the pannier of a donkey; that the elders of the party, having brought lunch with them, had eaten it on the roof of the gateway, where they would have been seen from below, while he had been left on the ground with the attendants and donkeys."

"'A case has been related to me,' says Abercrombie, 'of a boy who at the age of four received a fracture of the skull, for which he underwent the operation of trepanning. He was at the time in a state of perfect stupor, and after his recovery retained no recollection either of the accident or of the operation. At the age of fifteen, during the delirium of a fever, he gave his mother a correct description of the operation, and the persons who were present at it, with their dress and other minute particulars. He had never alluded to it before, and no means were known by which he could have acquired a knowledge of the circumstances which he mentioned.'"

The complete recovery of a forgotten language merits attention. The case reported by Coleridge is well known, and there are many others of the same kind to be found in the works of Abercrombie, Hamilton, and Carpenter. The anæsthetic sleep induced by chloroform or ether sometimes produces the same effects as does febrile excitation.

"An old forester had lived in his boyhood on the frontier of Poland, where he had never spoken anything but the Polish tongue. Afterward he lived in the German districts, and his children assert that for thirty or forty years he neither heard nor pronounced a single Polish word. During an attack of anæsthesia, which lasted nearly two hours, he spoke, prayed, and sang, using only the Polish language."

A skilled and methodical recollection may be illustrated from Mark Antony's oration over the dead body of Cæsar, in which every circumstance calculated to excite the sympathy of his hearers is artfully recalled:

> "You all do know this mantle: I remember
> The first time ever Cæsar put it on;
> 'Twas on a summer's evening in his tent;
> That day he overcame the Nervii:—
> Look! in this place ran Cassius' dagger through:
> See, what a rent the envious Casca made:
> Through this the well-beloved Brutus stabb'd;
> And, as he pluck'd his cursed steel away,
> Mark how the blood of Cæsar follow'd it;
> As rushing out of doors, to be resolv'd
> If Brutus so unkindly knock'd, or no;
> For Brutus, as you know, was Cæsar's angel:
> Judge, O ye gods, how dearly Cæsar lov'd him!
> This was the most unkindest cut of all:
> For when the noble Cæsar saw him stab,
> Ingratitude, more strong than traitors' arms,
> Quite vanquish'd him: then burst his mighty heart:
> And, in his mantle muffling up his face,
> Even at the base of Pompey's statue,
> Which all the while ran blood, great Cæsar fell."

A similar skilful selection of circumstances characterizes every good description of familiar scenes. The "Cotter's Saturday Night," by Burns, and the "Elegy in a Village Churchyard," by Gray, both largely composed from recollections, contain excellent illustrations.—EDWARD JOHN HAMILTON.

Chapter XVI.

THE SENSIBILITIES.

An Outline for Study.

1. The sensibilities are { immediate, retrospective, prospective.—BROWN.
2. The sensibilities are { animal, rational, spiritual.—HICKOK.
3. The sensibilities are { simple emotions, affections, desires.—HAVEN.
4. The sensibilities are { { appetites or animal propensities, } emotions or affections, voluntary activities. —MAHAN.

EMOTIONS.

5. All emotions are pleasant or unpleasant.

6. When the element of hope in an emotion becomes extinct, *agony* is induced.

7. When any good once hoped for has been lost, the emotion of *grief* is created.

8. When moral excellencies once possessed are lost by our own actions, the self-reprobation becomes *remorse*.

"What exile from himself can flee
To zones, though more and more remote?
Still, still pursues, where'er I be,
The blight of life, the demon, thought.

Through many a clime 'tis mine to go,
With many a retrospection curst;
And all my solace is to know,
Whate'er betides, I've known the worst.

What is that worst? nay, do not ask;—
In pity from the search forbear.
Smile on—nor venture to unmask
Man's heart, and view the hell that's there."

—BYRON.

9. Desires are to sensations and emotions what effects are to causes.

10. Some emotions depend upon original principles in our nature and are permanent, as—domestic affections, love of right and of duty, hatred of wrong, etc.

11. Some emotions come to full maturity instantly, as fear, terror, suspense, wonder. They disappear as quickly as they rose.

12. Certain emotions come to maturity slowly and gradually decay, as beauty and sublimity.

13. Some emotions produce similar feelings in other minds. These are emotions of *sympathy*.

14. There is but a step between sympathy and affection or love. True sympathy will always, if properly cultivated, lead to love. It is at the basis of—

Love	of society,	of benefactors,
	of kindred,	of country,
	of the sexes,	of heroes,
	of friends,	of species,
	of home,	of God.

15. The mind is always pleased with emotions of fitness, propriety, congruity, and pained with emotions of an opposite nature.

Remark (1). The basis of all our real love of God is sympathy. "We love Him because He first loved us." We love Him for the same reason our pupils love us, and we love them. We desire to imitate what we see is worthy of imitation. Laboring for others shows us these good qualities, and thus we gain a sympathy for them.

Remark (2). The above suggestions are full of most valuable suggestions to all teachers. It is only by studying the nature of our desires, sympathies, moral character, and affections we can learn how to mould others' characters and do them good. The whole subject here outlined is full of material for thought.

Remark (3). You must study this subject in the light of yourselves. Reading books will not help you very much. Look into your own natures. Study yourselves. If at first you cannot think satisfactorily, try again in another way. Ask, "How do I feel, think, sympathize, love?" All human beings are fundamentally the same. The probability is, were you in the place of your pupils you would do as they do; your emotions would be their emotions.

Remark (4). The emotions move the intellectual powers and will, so we have outlined the Sensibilities and Feelings.

Remark (5). Do not be discouraged if introspection is difficult and slow. Keep at it. You will succeed.

Chapter XVII.

RELATION OF THE SENSIBILITIES TO THE WILL.

CLASSIFICATION.

- We have feelings of
  - Emotion,
  - Desire, and
  - Obligation.
- Our desires are,
  - Appetites,
  - Propensities, and
  - Affections.
- Our emotions are, among many others,
  - Cheerfulness,
  - Joy,
  - Sorrow,
  - Surprise,
  - Astonishment,
  - Approval,
  - Disgust,
  - Wonder,
  - Melancholy,
  - Beauty,
  - Grandeur,
  - Sublimity,
  - Ludicrousness,
  - Disapproval.
- Among our appetites are
  - Hunger,
  - Thirst.
- Among our propensities are
  - Curiosity,
  - Sociability,
  - Ambition.
- Our affections are both
  - Malevolent, as
    - Anger,
    - Hate,
    - Revenge.
  - Benevolent, as
    - Love,
    - Benevolence,
    - Mercy.

This outline, although very comprehensive, is only a suggestion. An entire list would be much longer; for example, our obligations are here not subdivided, and the number of our propensities might be increased.

But how do these affect the will? All intellectual acts are clearly connected with the sensibilities, but *the intellect cannot reach the will except through the emotions.* Let the students of the mind carefully examine this statement. There is a world of instruction in it for the guidance of teachers. Is it true? We believe it is. But one more truth must be noticed. It is this:

The emotions are not in direct contact with the will. One may be much moved, as by the sight of a beautiful picture, a dying person, great joy, or laughter, and yet have no exercise of the will. In fact, one may be overwhelmed with emotion and have no desire.

Emotions *are followed* by feelings of desire and often by obligation. Our desires are in proximity to the will. Notice carefully these statements.

The intellect is moved by emotions, and these are followed by desires, which are in contact with feelings of obligation.

We may approach the will in other directions, but this is the most direct way.

Can a child be made to *desire* to study, or obey the rule of right, or perform a duty without emotions? Is it true that a pupil may be much moved and yet have no *will* to go to work? Do joy, sorrow, and cheerfulness lead to desire? Is it necessary that desire should be excited in the mind before the will be exercised? Let the students of the mind answer these questions in the

light of their own personal experiences and the observation of others. The subject is full of suggestiveness.

A FEW QUESTIONS IN MIND-STUDY ANSWERED.

NOTE.—These questions were submitted to an intelligent teacher, and received the following answers. They are presented here not because they are as accurately expressed as they might have been, but for the purpose of showing how an honest teacher can examine his own mental processes.

I. Write the five things you like best to think about.

(1) Mind and its Development.
(2) Language and its Growth.
(3) Natural Sciences, and the Method of Teaching the same.
(4) The Political Science—Civil Government and Political Economy.
(5) Moral Science—Divine Government and Theology.

II. Write five characteristics of your mental operations.

(1) I do not remember easily.
(2) I can't reason out mathematical problems easily.
(3) I can originate new ideas, but am slow to mature my thoughts and put them into execution.
(4) I indulge too much in air-castle building.
(5) Am not systematic in my investigations.

III. How many distinct kinds of mental faculties can you recognize?

(1) Sensation. (2) Perception. (3) Conception. (4) Imagination. (5) Memory. (6) Abstraction. (7) Association and Discrimination. (8) Reflection. (9) Judgment. (10) Reason. (11) Concentration. (12) Fancy.

IV. Which of these, in your case, seems to be most fully developed?

(1) Perception—Power of Seeing.

V. Under what mental conditions can you think easily?

(1) Under mental excitement. (2) Under pressure. (3) Under opposition.

VI. Is your mind improving? Give five reasons why you think it is or is not.

(1) I think it is. I hope so, at least. (*a*) I have a greater thirst *to know*. (*b*) A stronger desire *to do*. (*c*) I can accomplish more mental work in a given amount of time with less mental effort. (*d*) Things that my mental nature once loathed it now loves. Once poetry was loathsome, now it is lovely; and so with other forms of art. (*e*) Narrowness is fading out — broadness and liberality are breathing in.

VII. Name five ways in which your mental activity is promoted.

(1) By teaching and observing mental phenomena.

(2) By studying the *art* of teaching with its principles.

(3) By mingling with my fellow teachers.

(4) By mingling with my pupils.

} "Mind sharpeneth mind."

(5) By telling publicly what I have thought out privately.

VIII. How long can you think of one thing to the exclusion of all others?

(1) I can't think very long on one subject.

IX. State the connection, in your experience, between abstraction, association, and imagination.

(1) Association is the grouping of ideas.

(2) Abstraction is the detaching of an idea from a group.

(3) Imagination is the weaving of these abstractions into a whole.

What follows illustrates my experience of the connection or relation of the above faculties:

(1) The mind enters the botanical garden of thought.

(2) Association groups into distinct clusters the roses, the lilies, and the pansies.

(3) Abstraction plucks an individual flower from each separate group.

(4) Imagination weaves these individual flowers into a new and distinct flower.

X. Is it possible to talk about anything of which you are not thinking?

I think not. We think at small intervals on the subject we seem not to think of.

Chapter XVIII.

THE TRAINING OF THE SENSIBILITIES.

THE sensibilities stand in a commanding relation to both the will and the thinking powers. To ignore their importance is to ignore that which has given the best teachers of the world their greatest success. An iceberg has no power to mould child-nature; neither has a blazing pine-knot, nor a stubborn mule. A successful teacher must combine clearness and strength, with warmth, light, and unyielding determination. Tears alone have no power. They may give evidence of remarkable weakness. A weeping ignoramus will be kicked out of doors by pupils who have not a particle of sympathy with his misfortunes. They will laugh him to scorn, for weakness as well as ignorant stubbornness always provokes merriment.

A PERFECT TEACHER.

This mythical personage has equally developed all three qualities, Will, Feeling, Knowledge. Here we represent him:

No. 1.	WILL.	FEELINGS.	INTELLECT.

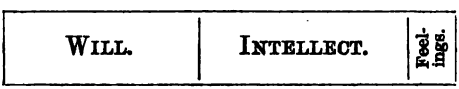
He cannot be found except in imagination. Some

teachers, especially those inexperienced, would be represented like this:

No. 2.

Great feeling; little intellect and will. Other teachers, especially the old "crammers" and "grinds," are as follows:

No. 3.



Great will and knowledge; almost no feeling. With such teachers the "know something" and the "must" are grand educational forces. They would give more for an excellent "recitation" than for all the sentiment in the United States. No. 2 will laugh and cry in the same breath; the will is weak and the examination-papers poor.

Self-Examination.—Draw your own diagram carefully and honestly. It will do you good. Make it six inches long, and subdivide it into its proportional parts. The suggestion is an excellent one, and needs no further explanation.

Now we come to the real object of this article—the methods of training the sensibilities so that they may work in harmony with all the other parts of the mind.

In Some Cases They Must be Repressed.—Some young children develop in early life great emotional power. They laugh or cry, are very cheerful or despondent, or

have an inordinate curiosity and sociability. They cannot say *no*, have no will of their own, and are not content unless they are hanging on the neck of the teacher, and assured a hundred times that they are objects of affection. It is not necessary to cause such dear little creatures an instant of pain. Their intellects must be made to grow, and their wills brought into active exercise. They must be put into situations where they are obliged to assert themselves. This can be done by means of *motives*. The emotional force must be brought to bear upon the motive forces. A child says: "I love you so much, my dear teacher!"

"Well, my child; will you do something for me that will make me feel very happy?"

"Anything in the world."

"Well, then, if you do this work in arithmetic to-night, I shall be made very happy when I see it to-morrow."

To-morrow comes, and the work has been poorly done. The teacher says: "The work is not well done, and I feel bad about it."

The child bursts out into a passion of tears. The next day greater effort is put forth, and the teacher is made happier; by and by the work is excellently done, and the teacher is rejoiced. But by this time the intellect begins to assert itself, and the emotional nature is less demonstrative.

In like manner the will can be reached through motives of duty—right and wrong. The object of the teacher is to overpower the feelings when they are in excess by developing the will and intellect through mo-

tives skilfully applied. In every instance as soon as the will and intellect begin to grow the emotions will be found to work in harmony with them. This is the education of the feelings.

In Some Cases They Must be Cultivated.—This can be done in a hundred different ways. Cheerfulness, joy, wonder, beauty, curiosity, disappointment, or disapproval will wake up the feelings of the most unfeeling child. An entire book could easily be written on this subject. Is a boy wilful, stubborn, and immovable? Does he delight in causing other children to cry? Is he unmoved by the emotions and desires of his teacher? Get him to laugh at something worth laughing at. Show him by stories the meanness of a low action. Make it appear as mean as possible. Get him to do you a favor—to help you or some one else. Excite feelings of obligation. Go out of your way to help him. It may be necessary to punish him; if so, let it be done, and let him understand the full enormity of his actions, and with a feeling heart punish him thoroughly. If it *must* be done, let it be well done.

AN ANECDOTE OF DANIEL WEBSTER.

The best men have had the deepest feelings. In his mature days, no one was held in higher esteem by the people of this country than Daniel Webster. An incident in his early life forcibly illustrates the true composition of his nature, and shows us how deep his sensibilities were. His father was poor, yet he resolved to send him to college—a dream he had hardly dared to cherish. He says:

"I remember the very hill we were ascending through deep snow, in a New England sleigh, when my father made known this purpose to me. I could not speak. How could he, I thought,

with so large a family, and in such narrow circumstances, think of incurring so great an expense for me? A warm glow ran all over me, and *I laid my head on my father's shoulder and wept.*"

This little incident shows how deep were his sensibilities. His strength of intellect and will are universally recognized.

Closely allied to the emotions of joy and sorrow awakened by our own personal experience of good and of evil is the sympathy we feel with the joys and sorrows of others in similar circumstances. Joy is contagious. So, also, is grief. We cannot behold the emotions of others without in some degree experiencing a corresponding emotion. Nor is it necessary to be eye-witnesses of that happiness or sorrow. The simple description of any scene of happiness or of misery affects the heart, and touches the chords of sympathetic emotion. We picture the scene to ourselves, we fancy ourselves the spectators or, it may be, the actors and the sufferers; we imagine what would be our own emotions in such a case, and in proportion to the liveliness of our power of conception, and also of our power of feeling, will be our sympathy with the real scene and the real sufferers.

The sympathy thus awakened, whether with the joy or the sorrow of others, is a simple emotion, distinct in its nature from both the affections and the desires; and it is, moreover, instinctive rather than rational—a matter of impulse, a principle implanted in our nature, and springing into exercise, as by instinct, whenever the occasion presents itself, rather than the result of reason and reflection. It is a susceptibility which we possess, to some extent at least, in common with the brutes, who are by no means insensible to the distresses or to the happiness of their fellows. It is a susceptibility which manifests itself in early life, before habits of reflection are formed, and under circumstances which preclude the supposition that it may be the result of education, or in any manner an acquired and not an original and implanted principle. So far from being the result of reflection, reason and reflection are often needed to check the emotion, and keep it within due bounds. There are times when sympathy, for example, with the distresses of others would stand in the way of efficient and necessary action, and when it is needful to summon all the resources of reason to our aid in the stern and resolute performance of a duty which brings us into conflict with this instinctive principle of our nature. The judge is not at liberty to regard the tears of the heart-broken wife or child when he rises to pronounce the stern sentence of violated law upon the wretched criminal. The kind-hearted surgeon must for the time be deaf to the outcries of his patient, and insensible to his sufferings, or his ministrations are at an end.—JOSEPH HAVEN.

Chapter XXX.

RELATION OF THE SENSIBILITIES TO MORALITY.

It is the opinion of many eminent thinkers that moral consciousness is wholly dependent upon sympathy; however this may be, it is certain that a highly-developed sympathy is an indispensable condition to its full unfolding. Moral feelings require that we should feel for others. In other words, we must enter into their joys and sorrows. The early Christians were in entire sympathy among themselves. They lived together, they belonged together; they were all as brothers and sisters, fathers and children. A man no more thought of saying,* "This is my place, this is my right," than the hand thinks of saying to the foot, "This blood belongs to me, not to you," or of saying to the other hand, "I have a right to do this, you have not." This was the highest condition human society has ever yet attained. If it had lasted, heaven would have already come on the earth.

The Basis of True Morality is affection. Self is forgotten in serving others. Christ expressed this truth

* James Freeman Clarke, in "Self-Culture."

when he said, "For whosoever shall do the will of God, the same is my brother, and sister, and mother." But it must be noticed that morality does not consist in simply doing right, but *in doing right through proper motives.* A moral action cannot be done through jealousy, or envy, or self-gratification. These motives may lead one to give money to the poor or feed the hungry. This is right, but since the *motives* are wrong, the actions are not moral actions. We may outwardly do right and yet have poor moral characters. Let us take an illustration. A man may be polite, helpful, and generous. He may even get an excellent character for goodness, but at heart have no sympathy with his fellow men. His motives may be increasing his trade, establishing a professional character, or obtaining an office. He is far different from the man who has genuine sympathy with others and labors for their good, forgetful of self-interest, with no thought of trade, profession, or office. Such a man was John Howard, and such persons are thousands who are teaching and working all over the world. "It is only when we lose thought of ourselves that we find our own higher self." It is not enough to rejoice because we have our desire, we must rejoice because others are happy. Two words stand over against each other:

SELFISHNESS—SYMPATHY.

They are foundation-stones; one, of all that is mean and repulsive; the other, of all that is high and attractive.

There is an expression, "using one's friends," that

implies a great deal that is bad,* for it is the confession of personal desire as the end of social attachment. Fashionable life is heartless, because under the appearance of affection there is generally nothing but heartlessness. The polished words of conventionalism are only the husks of sympathy; the heart is gone. In corrupt society, sensuality and selfishness have usurped the place of the affections.

A distinction must here be made between natural and moral affections. Our natural affections we share with the lower animals. They have no moral character, "are not morally good, and do not become so by being brought under moral control" (Hopkins). It constitutes no element of moral character for a mother to love her child; it would be immoral if she did not. The same may be said of natural endowments; some are amiable, others are the reverse. "It is no fault of theirs; one is the rose, and the other the nettle; one is the smooth, the other the rough-barked tree, and nature has made the difference."

"It is not uncommon to find the richest gifts of natural affections and intellect associated with the deepest moral corruptions. We have examples of this in Aaron Burr, Byron, Napoleon, and Poe. It is the smooth-barked hickory that bears bitter nuts. Good nuts come from the shag-bark hickory, beautiful flowers grow on the prickly and angular cactus."

"A man who has given himself up to selfishness when he pays visits to his tenants, on the day the rents be-

* See Dr. Hopkins' Lowell Lectures on "Moral Science."

come due, can see nothing and hear nothing but money. Selfishness has closed the avenues to his soul." He may be amiable and, in general, kind, but all that he does is tinged by his moral nature. He cannot see beyond his own self-interest.

Still we are responsible for our own moral characters and, to a great extent, for those influenced by us, for we are so made that we can turn our motives and desires into whatever channel we wish them to run.

We would remark, here, upon one discouragement which frequently attends the efforts of those who are so situated as to render it especially their duty to impart instruction to the young. We refer to the fact that it is sometimes, and but too frequently, the case that they see but little immediate good results from their labors. They can see distinctly the advancement of their pupils in that knowledge which is appropriate to the intellect, but are less able to measure their progress in what pertains to the moral culture Indeed, they too often believe that their instruction is seed sown upon stony ground, which is not only unproductive at present, but is absolutely and forever lost.

This is a great mistake. The truth is that nothing is lost. The moral and religious instruction which is communicated to the youthful memory is deposited in the keeping of a power which may sometimes slumber but can never die. It may long be unproductive; it may remain for years without giving signs of vivification and of an operative influence; and yet it may be only waiting for some more favorable and important moment, when it shall come forth suddenly and prominently to view. No one, therefore, ought to be discouraged in the discharge of his duty. In nothing is the scriptural declaration more likely to be fulfilled in its richest import: "Cast thy bread upon the waters, and thou shalt find it after many days."

Multitudes of illustrations might be introduced to confirm the views of this section. How natural is the following incident! And how agreeable, therefore, to sound philosophy! "When I was a little child," said a religious man, "my mother used to bid me kneel beside her, and place her hand upon my head while she prayed. Ere I was old enough to know her worth, she died, and I was left to my own guidance. Like others, I was inclined to evil passions, but often felt myself checked, and as it were drawn back by the soft hand upon my head. When I was a young man I travelled in foreign lands, and was exposed to many temptations; but when I would have yielded, *that same hand was upon my head*, and I was saved. I seemed to feel its pressure as in the days of my happy infancy, and sometimes there came with it a voice in my heart, a voice that must be obeyed: "Oh, do not this wickedness, my son, nor sin against thy God."—THOMAS C. UPHAM.

Chapter XX.

THE IMAGINATION.

DURING THE SECOND STAGE IN CHILD-LIFE.

WHEN the mind commences to assert its own character, it begins to be independent. Let us consider one faculty as it now appears.

1. IMAGINATION.—This faculty implies the possession of knowledge—something has been received and retained. It is now changed into other forms; by a purely mental act it is rearranged. Suppose a child had seen a certain arrangement, as:

A book on the table.

A chair at its left. A girl standing at the right.

A dog lying under the table.

Imagination re-arranges these in the mind, and the child says: I see—

A dog lying on the table.

A girl standing at the left. A chair at the right.

A book under the table.

Without the power of imagination these new groupings could not be thought of.

Imagination is a rearrangement of images in the mind.

On what the Vividness of Imagination Depends.—The vividness of imagination depends, *first*, upon the distinctness and clearness of the sense-impressions, and, *second*, upon the permanence of those impressions. We have a distinct image of a person's face when we have a clear image of its several parts in the mind. If we only remember the nose distinctly, the picture of the whole face will be indistinct.

In this stage of the child's mental growth the distinctness of the impressions must be tested by appeal to the imagination. If it be found that this faculty is immature, the cause can at once be known—*the sense-impressions on the mind have been indistinct.*

A Few Experiments.—Children will delight in exercising this faculty if properly educated. Try this experiment with pupils about seven years of age. Say to a group of three or four, quietly, slowly, and distinctly:

"Shut your eyes, and I will tell you what I see. I am in a large room. In the middle of this room is a long table; around this table are chairs. At the further end of this room are two long, large windows; over the windows hang beautiful red curtains. There is a platform at this end of the room; it is carpeted; on this platform is a large arm-chair; at the right of the chair is a small, round marble stand. All around the sides of the room are arm-chairs. There is a door in the end of the room opposite the windows. No one is in the room. Keep still. *Hark!* The door opens. An old man

comes in. He walks slowly. He has white hair, and carries a cane. He goes to the chair on the platform and sits down and looks around; he is waiting for somebody. Let us see who it is. Yes, there he comes; he is a little boy. He is dressed in a velvet frock, has long flaxen hair that hangs in ringlets on his shoulders, clear white skin, and beautiful blue eyes. He runs up to the old man, and, throwing his arms around his neck, says: 'How glad I am to see you, grandpa!'" etc., etc.

This imaginary picture must be produced by giving each separate part of it distinctly and clearly. By a proper regrouping of what children have seen before, the greatest interest can be excited, and the greatest benefit secured. It is now when the imagination can be made the means of fixing much valuable knowledge. Suppose the mental picture, the outlines of which we have just given, should be completed, and then told by the pupils, and afterwards written in full; an excellent language lesson would be the result—better than a thousand grammars and more useful and interesting than ten thousand rules of syntax.

Suppose a historical mental picture is given—true in every particular as to its outlines, but filled with numerous imaginary details—in other words, suppose the dry bones of history were clothed with flesh, and made to stand before the pupils as living pictures, would they not be remembered? Children delight in pictures at this stage of their mental growth, and they must be led to take in knowledge through them—not only printed pictures in books, but mental pictures from the teacher's own lips. There ought to be a calling, "Do tell us

another history story," from ten thousand voices every day. They never would—they never *could*—forget them if properly told.

Take geography for another illustration. Suppose the teacher says: "Shut your eyes and we will go to London. I am up in the air and see a great city. A large river seems to divide it into two parts. The larger part is on its north. It is crossed by many bridges. I see a large building with a high dome. It is St. Paul's Cathedral," etc. Our space permits us to indicate only a glimpse of what such a geography lesson might teach; in other words, *might lead the child correctly to imagine*. No words can tell the wonderful interest that might be thrown around such exercises, if only the teacher could be possessed of the sufficient power to present them.

History and geography must be taught to young pupils principally by means of the imagination. Hitherto its power has not been recognized. Teachers, think of these things. What we say is the result of years of work, and for the first part—*failure* in reaching young minds. We tried to make the scholars "learn their lessons," and we succeeded; but they learned nothing else. They repeated, memorized, and recited. Thank God, light has come to our darkened understanding, and we see some things more clearly than ever before. The power of good imagination lessons in awakening thought and securing investigation and interest is now an article in our educational creed. That it may be in yours, is the object of this chapter.

THE CULTURE OF THE IMAGINATION IN THE PRIMARY CLASSES.

Introductory.—All the exercises of the school are necessarily connected with training in expression. The child must learn to talk and write. Much has been said on this point, and much more needs to be said before the majority of teachers will appreciate the great importance of teaching pupils to express themselves correctly and easily. Especially in the culture of the imagination is this of the greatest importance.

Personating.—This exercise consists in leading children to assume fictitious characters. For example, each member of a class may take a different occupation. One may be a farmer, another a merchant, another a conductor on a railroad, another a teacher, etc.

After a few minutes of silent thought, during which time the pupils could place their heads on their desks, they are permitted to tell what they have been imagining.

One would say: "I am a farmer, ploughing the ground with two horses and a plough. My horses don't like to pull. I have to make them go faster. When the ground is ready, I shall plant corn."

Another would say: "I am a grocer. In my store I have tea, sugar, coffee, dried apples and peaches, canned plums and pears, dried fish, and flour. I sell for cash."

Another might say: "I am a railroad engineer. My engine is large. When I pull the handle, the steam

goes puff, puff, and the wheels go round. I whistle, and scare the cattle off the track."

Another might say: "I am a teacher. I train the pupils to read and write. They go to the board and draw lines, and make figures, and write words."

This, of necessity, is only a hint. The manner of carrying it out will be much varied by the earnest teacher. For example, pupils can imagine they are in different localities, and can be influenced to tell what they see. One says: "I am standing by the banks of a river. I see little fishes swimming about in the shallow water. A board is floating down-stream. On the board is a frog. O, he jumps off as soon as he sees me. I guess he was afraid I would stone him."

Another says: "I am in the woods. The trees are very high. The brush on the ground is thick. I see a rabbit! How fast he jumps!"

Another says: "I am watching a big fire. Flame and smoke are coming out of the windows. The engine is throwing a stream of water right into the hot fire. It makes a great deal of noise."

By skilfully conducting such exercises as these, the greatest enthusiasm can be created and much real discipline obtained.

What Studies Train the Imagination.—*Geography*, properly taught, is the best. There is no mental breadth obtained by learning the names of places, or the facts of distances, nor is there any geography in them, unless facts bring pictures into the mind. Geography is not a description of the earth's surface: it is a mental conception of a part or all of it. *What we can*

see by the aid of imagination is geography—all else is words. There is a general or accommodative sense in which all that is said concerning the earth is classed under the head of geography, but this is not the sense in which the word is used in primary instruction.

History is the twin sister of geography; in fact it would be impossible to study history without its aid. True history consists of pictures in the mind, for *history is but a series of pictures.* We see Cæsar crossing the Rubicon, the battles of Marathon and Thermopylæ, Waterloo, Yorktown, Gettysburg, and Bull Run, and it is not until we get a mental photograph of these scenes that we have a history of them.

There is little discipline of the imagination in spelling, arithmetic, or elocutionary reading, but *literature* is full of imaginative culture. Poetry, stories, and novels appeal directly to this faculty for all their best effects. "Robinson Crusoe" and "The Arabian Nights" have done more than all other books combined to cultivate the imaginative faculty in children. Hans Christian Andersen's works have had a wonderful influence. An entire chapter could profitably be filled with a catalogue of books adapted to cultivate a healthy imagination in children. For older pupils, nothing is better than the historical novels of Sir Walter Scott; Bulwer-Lytton's "Rienzi," "The Last Days of Pompeii;" Prescott's "Mexico" and "Peru," and most of what Washington Irving and Fenimore Cooper have written.

Two poetical examples will serve to illustrate how much material, both suggestive and beautiful, is at hand for use whenever wanted:

"Every wave, with dimpled cheek,
That leaped upon the air,
Had caught a star in its embrace,
And held it trembling there!"

"I have heard the laughing wind behind,
When playing with my hair—
The breezy fingers of the wind,
How cool and moist they were!"

It is of the utmost importance that improper imaginative works should be kept away from growing minds.

This cannot be done by prohibits. It cannot be said, "Don't read the 'Terrible Exploits of Bill Jones, the Outlaw.'" Nothing will make it more certain that it will be read. Start early with interesting works of imagination, and keep it up. Eternal vigilance is the price of a healthy imagination culture.

Satisfy the imagination of children whenever it is possible to do so.

This native faculty *will be appeased* somehow, somewhere, some time. Go before and answer its questions, or else it will create fancies, thoughts, and imaginings, the like of which are not found either on the earth or above it, and many of which, if nurtured, will lead them to certain ruin.

Chapter XXX.

IMAGINATION IN ITS MATURITY.

A FEW instances will illustrate how vivid imagination often is, and what a power it may be made in mental development.

"What does God send the snow for?" asked one little girl of another. "Why, the snow-flakes are the umbrellas He covers His flowers with," was the answer.

The measles invaded a household where there were many children. The first child to sicken was given a box of paints and some prints to color, to amuse himself in bed. "I wish I could get the measles," said a younger brother, "then I could have a paint-box too." In due time he caught the infection and was also given a box of paints. "Papa," said the little one wearily, after being a couple of days in bed, "you can take the paint-box away: I don't want the measles." In the child's thoughts there was a connection between the box of paints and the measles. It is an interesting incident, not only in showing the working of imagination in children but the power of early association in tracing effects to their causes.

There was a little girl who believed that the stars were the children of the moon. Her mother wanted

her to go to bed one night before she felt quite sleepy enough to go willingly. "But the moon hasn't sent her children to bed yet," objected the little astronomer, petulantly. It so happened that a storm was brewing and heavy clouds were gathering in the heavens. "Go and see if she hasn't," said her mother. The little head was immediately popped out of window, and the sky was scanned eagerly. "Well, I guess I'll have to go to bed now," she said after the survey; "the moon is covering up her children and tucking them in."

AN ANALYSIS.

Fancy collects materials for the imagination, consequently the latter presupposes the former, but the former does not necessarily suppose the latter. The power of fancy supplies the poet with metaphorical language, but imagination creates the complex scenes which he describes. We can say a "rich fancy," but not a "rich imagination." We can call the imagination "sublime," but not "luxuriant." This distinction is important.

The imagination does not abstract or generalize, it only supplies materials for these processes according to the laws of association. Without imagination the scientist could do nothing; with only an imagination he could do nothing. Abstraction, generalization, and taste supply the fancy, and this arranges materials for the imagination. It follows, therefore, that real imagination can only be obtained through the cultivation of the reflective powers. Fancy is the proper name for what is called imagination in young children; but, since they early

commence to generalize, a true imagination soon begins to show itself. At first *fancy* predominates, but soon it begins to take its subordinate place.

Imagination is the result of education: it is not an original endowment of the mind. Men differ in the strength of this power because they differ in the strength of the elements that form it; and since the faculties of abstraction, generalization, and memory can be greatly cultivated by proper education, it follows, as an axiom, that a good imagination must depend upon education. It will be seen that the possession of a good imagination marks the highest type of mind. Inventors, mathematicians, prose writers, and orators are as much entitled to be called men of genius, and imaginative, as poets, painters, and orators.

Imagination has a powerful influence on the formation of character. By it our *ideals* are formed. A young person sets out in life with his ideal of perfection and happiness. If it consists of sensuous pleasures, he will make every effort to gratify his appetites; but if he places before himself a high standard of moral excellence, he will exert himself to attain to it. Moral duties and religious exercises are powerfully influenced by the imagination. In the Christian religion the life and works of Christ are constantly held up before the world. His followers see Him in all the situations in which he was placed. A Christian will at once appreciate the force of this assertion and admit its powerful effect on human actions. Place before a child an ideal good, clearly, forcibly, and frequently, and it will soon begin to exert itself to attain to it. Some philosophers have gone so

far as to claim that all moral good was centred in the imagination. This is not so. There is a sense of right and wrong instinctive in the human soul which no imagination can destroy; but it is neverthless true that from the imagination of man come some of the most powerful moral forces our natures are capable of receiving.

Teachers will see the important bearing of all this on methods of moral instruction.

Ideals, like notions, are particular and general. Thus, in the mind of Milton there existed a general idea of what a poem should be, in order to realize, in greater or less perfection, the pure ideas of reason. At the same time there existed a particular ideal of the manner in which the elements entering into that poem should be blended, in order, in that particular production, to realize those ideals.

Ideals are not confined to any one class of ideas. Every individual, in all departments of human action, has an ideal of the form to which the objects of his action should be brought into conformity, and in the light of which he judges of all productions which meet his eye. Ideas of fitness, of the true, the perfect, and the good, no less than the idea of the beautiful, are the archetypes of ideals.

As immediate archetypes between particular conceptions and universal and necessary ideas, ideals constitute the foundation of endless progression in the development of the mental powers. Every new elevation which the intelligence gains presents new conceptions of particular objects, and consequently new elements of thought. Every new element of thought involves a new ideal, more nearly approaching the perfect and the absolute, and thus lays the foundation for fresh activity, and further progress in the march of mind. Sometimes, also, ideals degenerate, and thus the foundation is laid for the backward movements of society. It is hardly necessary to add that the imagination is the sole originator of ideals. To form such conceptions is not a function of reason, nor of the understanding or judgment. It remains, then, as the exclusive function of the imagination.—ASA MAHAN.

Chapter XXII.

THE EDUCATION OF THE MORAL SENSE.

It has been said that "morals can be taught as other sciences more or less exact are taught, by specially prepared text-books and oral teaching adapted to different ages." In other words, according to this writer, morals should be placed on the same plane as chemistry, grammar, and geology, and we suppose he would expect lessons to be learned and recited in them at stated times. This would secure a knowledge of the principles of moral philosophy, but it would not be effective in making students better. The object of teaching morals in schools is to make pupils good,—to instil in the young mind a deep and abiding love of the true and the right —to influence the conduct through all after-life. The study of the science of dogmatic theology or the exegesis of the New Testament is no more likely to make good men than the study of the science of mineralogy or palæontology. Let us take the discussion of the ultimate ground of right as an example. Dr. Peabody claims that it is "fitness." Adam Smith held that "sympathy is its sole standard and basis." A large class of philosophers believe that the Bible or the church is the

only guide we have for determining the moral character of any human act. We may theorize and speculate and not become capable of better thinking and feeling. There is no moral elevation, no uplifting force, in all this investigation. It is right enough in university halls, but such dogmatism has no place in the public school. Did Arnold teach morals by a text-book? His great, loving, sympathetic, reverent soul "was impacted into the very body of all his teaching." When the "principal thing about a man is religion,"—in other words, when his soul is filled with love to God and his fellow-beings,—he will teach far more than any text-book on morals, or any formal religious instruction, can ever accomplish.

We conclude that we cannot fix good moral ideas in the minds of pupils by formal lessons from text-books.

The moral sense is at first weak. An infant has no conscientious scruples about appropriating whatever it happens to want, and has but little gratitude, sympathy, love, or idea of right and truth; and is naturally selfish, greedy, and impatient of restraint. These characteristics show themselves at an early period in the lives of most children. The most important question the mother and teacher can answer is, What is the first step in the moral education of this human being? The answer unquestionably is, *the education of obedience to the demands of truth.*

Plato says, "Truth is the beginning of every good thing, both in heaven and on earth." In the training of children nothing is easier than to place before them motives of untruthfulness. A harsh voice, an accusa-

tion, an unsympathetic manner, and the fear of punishment will drive almost any child into stubborn untruthfulness, which very soon will become settled into a life-long habit. The greatest care is needed in order to fix the practice of entire open-heartedness and frankness in the nature. Suppose a child has broken a china cup; will he confess the fault if he knows that he is certain to receive punishment for his sin?

There are few boys, Mrs. Malleson says, "made of such naturally heroic stuff as the late Sir Henry Lawrence, who, when enticed by his school-fellows to follow their example and throw a ball in dangerous proximity to a forbidden window, went straight to his master, doubtless amid roars of laughter, says his biographer, with 'I have come to say, sir, I have broken a window.' We have no right to expect heroism from average young creatures yet unfledged in morality."

The habit of exaggeration is very strong in young children. It is not uncommon for them to say, "I saw twenty men running down the street," when there might not have been more than three, at most not more than five.

The motives for untruthfulness are so many, it would be impossible to discuss them on this page, nor would it be profitable to do so. The one important question to be answered by every teacher is, How shall my children be trained to tell the truth, *always?* Herbert Spencer's answer is that when a child tells an untruth, refuse it credence for a given period. Let it understand the consequences of its sin in a want of confidence. But another and better way is to trust the child.

Mrs. Malleson tells of a little girl of three or four who found the first use of her tooth-brush very irksome, and when her mother asked her one day whether she had brushed her teeth, answered "Yes" when she had neglected the duty. Her mother assumed to believe her, as a matter of course; but the child immediately woke to a sense that she was untruthful to her mother who had *trusted* her. She straightway ran to her room for the duty she hated, and afterwards fully deserved the trust she had abused. Mrs. Malleson also tells of a cook who said of her mistress, "You cannot tell lies to Mrs. ——; she always believes you." She also quotes an incident of Canon Farrar. He said in an address: "At Harrow two boys brought me exercises marked by the same grotesque mistakes. It seemed certain that those exercises could not have been done independently. Both boys assured me that there had been no copying. One whom I had considered a boy of high *morale* assured me of this again and again with passionate earnestness. I said to him, 'If I were to send up those two exercises to any jury in England, they would say that these resemblances could not be accidental, except by something almost like a miracle. But you both tell me that you have not copied. I cannot believe you would lie to me. I must suppose that there has been some extraordinary accident. I shall say no more. Years after, that boy, then a monitor, said to me: 'Sir, do you remember that exercise in the fourth form?' 'Yes,' I said. 'Well, sir, I told you a lie. It *was* copied. You believed me, and the remembrance of that lie has remained with me and pained me ever since.' I am inclined to think," says Canon Farrar, "that boy was more effectually taught and more effectually punished than if I had refused to accept his protests."

A child must have *courage*. This means more than an ability to defend one's self; it means strength to follow the dictates of *conscience*. It is safe to say that conscience rests on a sense of *obligation*. How conscience comes into our constitution cannot here be discussed, but all children have it to a greater or less degree. The question to be settled by teachers is, How can it be strengthened so as to become dominant in the human soul? We answer, *by increasing the sense of obligation, and cultivating courage to follow the commands that our nature tells us are right.*

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